



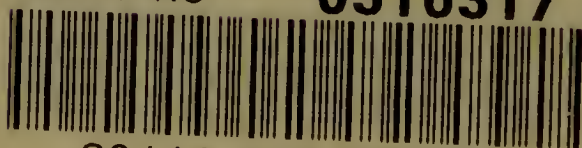
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Børnehospitalet i Christiania

i Aarene 1855—1857.

Ved

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Christiania.

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1858.

nok med Rette anseet mindre hensigtsmæssig, hvorimod et senere Forslag om at opføre en ny lille Bygning ved Siden af det nævnte lille Bilocale, der imidlertid var indrettet til at optage Fødende og, saavidt Rummet tillader det, ogsaa Fruentimmerpatienter, vandt Directionens Bifald. Endnu hengik nogle Aar, inden de i denne Hensigt udarbejdede Planer og Beregninger bleve Stortinget forelagte, da andre Krav syntes Styrelsen mere paatrængende; men i 1851 skete dette, den fornødne Bevilling blev tilstaaet og Bygningen var færdig til at tages i Brug i Begyndelsen af Aaret 1855, efterat Stortinget i 1854 havde bevilget en Sum af 400 Spd. til Lønninger og andre Udgifter vedkommende Virksomheden.

Børnehospitalets Bygning er 2de Etager høj og er ved en Dør fra en for Luftens Indstrømning fri Gang sat i Forbindelse med Fødselsstiftelsens Bibygning, hvis underste Etage ikke har Sygestuer, saa at denne Forbindelse ikke medfører nogen fælleds Luftindflydelse, forsaavidt en saadan maatte ansees mindre god. Cubikindholden af Sygelocalet udgjør noget over 13000 Fod. Sygerummenes Antal er 7, hvoraf et Par ere meget smaae og nærmest bestemte for spæde Børn, der følges af deres Mødre. De øvrige 3 Rum have havt 3 à 4 Senge og Totalbelægget er beregnet til 12 à 15 Patienter, hvorved er beregnet, at en nødvendig Udluftning af ledige Rum ogsaa af og til kan finde Sted. Vistnok har det flere Gange været Tilfældet, at dette Tal er oversteget og at Belægget har naaet op til et Antal af 18 Individuer, Mødre iberegne; men dette tør ogsaa kun undtagelsesviis finde Sted, om de sanitære Hensyn ellers skulle skee Fyldest. Under et normalt Belæg vil hvert Individ faae en Cubikmængde Luft af omtrent 800 Fod. Ventilationen skeer

ikke ved noget combineret Luftnings- og Varmeapparat, idet vore sædvanlige Ovne ere indførte i Værelserne, medens der er indrettet Ventiler lig de Arnotske i hvert Rums Skorsteenspipe, hvorhos vi i afvigte Aar have begyndt af construere en af de øverste Vinduesruder som et fiint Staaltraadnetværk, for herigjennem at erholde en stadig Luftvexel uden at frembringe nogen stærkere Luftstrøm (Trækluft). Om Sommeren og under en ikke streng Kulde aabnes ogsaa ofte et af de øverste Vinduer i Værelserne fuldstændigt.

Hvorvel det saaledes maa erkjendes, at et Savn i Hospitalsvæsenet paa denne Maade er for en Deel afhjulpet, kan det dog ikke negtes, at dette Hospital baade er for lidet for Behovet og dertil neppe med Hensyn til Grunden og dets Construction saaledes indrettet, som ønskeligt er. Det er derfor at haabe, at Rigshospitalet under dets intenderede Udvidelse ved nye Bygninger maa kunne byde en saadan Service et bedre og hensigtsmæssigere Locale, og dets nuværende Direction, der med al ønskelig Iver og Nidkjærhed interesserer sig for og arbejder paa en Fuldkommengjørelse af hele Hospitalet, vil sikkert ikke heller ved Udarbeidelsen af hertil sigtende Planer og Forslag lade Børnehospitalet ud af Betragtning. Det særegne Studium, Børnesygdommene med Rette nu skjænkes i langt høiere Grad end forhen, maa ogsaa gjøre det særdeles ønskeligt, at Ledelsen af Kliniken paa et saadant Hospital tildeles en Læge, der ikke er altfor meget optaget med andre saavel theoretiske som praktiske Underviisningsgjenstande, og det vilde for mig, der indtil videre har gjort det Tilbud ogsaa at overtage denne Klinik i Forbindelse med Foredragene over Fødselsvidenskab og Fruentimmersygdomme, være en sand Glæde, om en

anden Mand kunde mod passende Godtgjørelse offere sig mere specielt for Underviisningen i Barnepathologien. Jeg udtaler det Haab, at dette i en kommende Tid vil skee, ligesom vi Alle maae ønske, at der, under det rigere Sygematerial, der efterhaanden byder sig, og et fremtidigt mere udvidet Hospitalslocale i det Hele, ogsaa maa oprettes flere Servicer med særskilte og lønnede Overlæger for hver Afdeling, saaledes som man i andre Lande ogsaa stadigen gaaer frem til Held for de Syge og de unge Mænd, som i Anstalterne skulle hente den Kundskab, der siden skal komme Samfundet tilgode.

Børnehospitalets Tjenestepersonal bestaaer for Tiden af en Overlæge, en Reservelæge og 2de Cándidater, en Overpleiekone og en Gangkone, foruden Vaagekone om Natten og den fornødne Hjælp til Reengjørelse. I fornødent Fald kunne ogsaa Eleverne ved Jordemoderskolen kaldes til Hjælp. Enhver, der har gjort sig nærmere bekendt med Vanskelighederne ved at passe syge Børn, holde deres Tøi og Senge i god Orden, samt i det Hele vaage over Reenligheden, Diæten, Børnenes Opførsel o. s. v. vil let begribe, at et Børnehospital maa være i alle Henseender godt udstyret, om det skal virke godt. I Begyndelsen syntes ogsaa Forældrene mindre tilbøielige til at give Slip paa deres Børn og Mødrene ønskede altid at følge dem som Pleierinder paa Anstalten; men efterhaanden er dette dog gaaet bedre og jeg har Grund til at troe, at de Samfundsclasser, hvorfra Belægget kommer, nu lettere indgaae paa at indlægge deres Børn, fordi de have forstaaet, at disse blive forpleiede bedre, end i Hjemmet kunde skee. I Regelen finde ogsaa Børnene sig meget godt i Anstalten efter nogle Dages Ophold der. Det er en Selvfølge, at mindre Børn, især i Løbet af det første Leveaar, i Al-

mindelighed følges af deres Mødre. Nogen bestemt Aldersgrændse med Hensyn til Indtagelse i Børnehospitalet er ikke fastsat og derfor ere ogsaa flere ældre Børn optagne, forsaavidt Rummet har tilladt det; men da Righospitalets medicinske og chirurgiske Afdelinger, ifølge det gjældende Reglement ikke i Regelen modtage Børn under 7 Aar, vil Børnehospitalet fortrinsviis komme til at forpleie syge Børn, der ikke have naaet denne Alder.

Det for Hospitalet vedtagne Bespiisningsreglement tilføies til Slutning for dem, hvem dette maatte interessere.

I Løbet af Aaret 1855 var Antallet af de indkomne Børn = 53, hvoraf 9 laae tilbage ved Aarets Slutning. I Aaret 1856 indkom 54 Børn, hvoraf 14 vare tilbageiggende ved Aarets Udgang. I 1857 indlagdes 39 Børn, hvoraf 8 vare tilbageliggende ved det nye Aars Begyndelse. For alle 3 Aar tilsammen bliver altsaa Antallet = 146 behandlede Børn. 44 Mødre indtoges for at pleie og give Die og 16 Mødre eller Pleiemødre for at tilsee indlagte Børn over eet Aar. Totalantallet af forpleiede Individer bliver saaledes = 206. Helbredede ere udgaaede 110 Børn, i Bedring 10, Uhelbredede 1 og Døde 17. Mortaliteten af Børn bliver altsaa ved Begyndelsen af 1858 = 1:8,59 eller 11,64 %.*)

*) Ihvorvel en Mortalitetssammenligning altid bliver en usikker Sag, fordi saamange specielle Omstændigheder, som ikke kunne tilstrækkelig vurderes med Hensyn til Resultaterne, herved komme i Betragtning, vil det dog ikke være uden Interesse at erfare Dødeligheden paa enkelte større Børnehospitaler, da denne dog altid for en Deel vidner om de hygieniske Forholde.

I Prags „Franz-Joseph's-Kinderhospital," hvis Læge den ved flere Skrifter bekendte Dr. *Löschner* er, var Dødeligheden i 1855 af 1110 Børn (80 Senge) efter Fradag

Antallet af Forpleiningsdage for de udskrevne Patienter beløber sig til 9914 eller 67,90 Dage for hver. Naar Hensyn tages til det store Antal af Arthrocacer, hvori blandt enkelte især Rygradsaffectationer og Coxarthrocacer have medtaget en meget lang Tid, for flere Patienter fra 4 ligetil 12 Maaneder, bliver Gjennemsnitstiden let forklarlig. Hensigtsmæssigst saavel for Communen som for Hospitalet vilde det være, om der fra Byens Side kunde tilveiebringes et lille Locale, i hvilket Reconvalescentsen efter disse nu saa hyppige Nutritionssygdomme kunde tilbringes under Iagttagelse af en passende Hygiene, hvortil ogsaa orthopædisk Behandling maa henregnes. Med den gjorte Erfaring for Øie har jeg ogsaa allerede henledet Fattigforstanderens Opmærksomhed paa det for Individerne Nyttige og for Communen Oeconomiske i en saadan Foranstaltning.

Den ved Beretningens Slutning tilføiede samlede Tre-Aarsliste viser Tal og Beskaffenhed af de behandlede Sygdomme, hvorhos bemærkes, at nogle Børn have under deres Ophold paa Sygehuset lidt af intercurrerende Sygdomme, der i et enkelt Tilfælde endte dødeligt.

I det Følgende skal jeg fremstille en Deel af de

af de ved Epidemier, Tuberkulose og Rhachitis foranledigede Dødsfald — saa stor som 1:8,5.

I Dr. *Christ's* Kinderkrankenhaus i Frankfurt var i 1855 af 119 indtagne Børn Mortaliteten = 36 eller 1:3,3 (see Journal f. Kinderkrankh. 3—4. 1856. S. 249).

I „Kronprindsesse Louises Vårdanstalt for sjuka Barn“ i Stockholm var Mortaliteten i 1854 = 1:5 og i 1856 = 1:6 af de udskrevne Børn. I det store Barnhus sammesteds var Mortaliteten af Børn fra 1 til 3 Aars Alder = 1:2,24.

Man seer af disse Opgaver, at Dødeligheden i Børnehospitaler i det Hele er meget stor.

Sygdomstilfælde, som jeg antager af nogen Interesse for denne Beretnings Læsere og ledsage dem med nogle Bemærkninger angaaende de pathologiske og therapeutiske Forholde.

Skrophulose.

Det kan ved første Øiekast synes underligt, at jeg opstiller som et Sygdomsbegreb med særskilt Benævnelse, en saa ubestemt pathologisk Tilstand som den saakaldte „Skrophulose“ og dette saa meget mere, som denne collective Sygdomsterminus ikke engang findes paa Maanedslisterne iblandt de enkeltviis fremstillede Affectioner og følgelig heller ikke paa den vedføjede Generalfortegnelse for det Treaars-Tidsrum, som denne Redegjørelse omfatter. Allerede heraf fremgaaer det ogsaa, at jeg ikke hylder en for vidt dreven Generalisation af alle de under denne Sygdomsbenævnelse sædvanlig henførte Affectioner, og at jeg i Journalerne foretrækker at opstille de enkelte Sygdomme med specielt Hensyn til de angrebne Dele af Organismen og den locale Charakteer, de nærmest frembyde. Naar jeg ved den specielle Diagnose følger en saadan Delingsmaade, er Grunden dog ikke den, at jeg frakjender den her opstillede Generalisation sit Værd, hvilket vil fremgaae af min Udvikling i det Følgende, men den, at jeg heller casuistisk opfatter og beskriver de forskjellige locale Affectioner som selvstændige, skjønt maaskee hvilende paa en generel abnorm Organismetilstand, end som blotte Localisationer af en generel Dyskrasie og med et paatageligt Præg i deres Fremtræden af en i physiologisk og pathologisk Henseende uklar og mindre begrundet (skrophuløs) specifik Sygdomsdiathese. Der er ogsaa en anden Fordeel ved at anskue de saakaldte skrophulose

Affectioner paa den Maade, den nemlig: at man for en stor Deel bortkaster Frygten for at anvende i Tide en local Behandling, som let kommer for seent, om man udelukkende hænger ved den gamle Lære om de mangfoldige specifikke Localaffectioner.

For de Læger, som have fulgt Udviklingen af det medicinske Studium i de senere Decennier, vil det være en kjendt Sag, at man, efter en nøiagtig Undersøgelse og Fremstilling af alle i det døde Legeme forefundne Afvigelser fra en formeentlig Normalitet, troede sig berettiget til at opstille en god Deel pathologiske Begreber ogsaa for den levende Organisme, til stort Besvær for Diagnosen og uden tilsvarende Resultat for Behandlingen. Paa et senere Stadium igjen maatte denne eensidige anatomisk-pathologiske Tendents for en stor Deel vige for en ligesaa utrættelig Stræben efter at indordne disse mange Abnormiteter under generelle, vitale og organiske Processer, og Studiet af den levende Organismes Virksomhed har tilsigtet og tildeels ogsaa medført en Tilnærmelse til en ønskelig Generalisation af de enkelte pathologiske Tilstande, saavel som til en mere rationel Behandling. Det er forklarligt, at denne videnskabelige og rigorøse Naturforskning maatte rokke mange af vore Forfædres brugelige Definitioner, om det end ikke endnu er lykkedes at sætte andre tilstrækkeligt baserede Eenheder istedetfor flere af de gamle. Et godt Exempel herpaa, afgiver den gamle Sygdoms-eenhed, „Skrophulose,“ der er bleven underkastet en saa nøiagtig Prøvelse, at den fra et strengt videnskabeligt Standpunkt har ondt for at bevare sin Plads i vort pathologiske System. — Det vil i denne Henseende være til vor Belærelse at høre de Yttringer, der ere udgaaede fra enkelte af de Læger, som have havt Anledning til nærmere

at betragte og behandle de saakaldte skrophulose Sygdomstilfælde, og først skal jeg tillade mig at gjengive nogle Bemærkninger herom af en af Sveriges dygtige Læger, Professor v. *Düben*, nu Lærer i pathologisk Anatomie ved det Carolinske Institut, der i Løbet af 2 Aar har havt Lægetilsynet ved det i Stockholm nylig opbyggede og fortrinligt indrettede Børnesygehuus „Kronprindsesse Louises Vårdanstalt för sjuka Barn“,*) og for sammes Virksomhed i 1854 og 1855 afgivet værdifulde Beretninger. Ved at omhandle de locale Sygdomstilfælde, der skulle være Udtryk af Skrophulose, ytrer v. *Düben* sig i Beretningen for 1854, Side 30 o. fl., saaledes: „Stadigt hører man af Læger og Ikkelæger, som see de Fattiges og Ureenliges af Udslag og Kjertelhævelser angrebne Børn, med et Skuldertræk udtale Ordet: „Skrophler!“ Hermed er Alt afgjort; Diagnosen er klar, Prognosen daarlig og Behandlingen den evige Tran, en Haandfuld Salt i Badet o. s. v. Spørger man den medlidende Læge eller den mægtige Literatur, hvad Skrophler betyder og

*) Dette Sygehuus, der ikke er bestemt til at være nogen klinisk Underviisningsanstalt, optager Børn mellem 2 og 8 Aar og er istandbragt og underholdt ved et Legat af Dr. *Elmstedt* samt betydelige frivillige Bidrag. Overtilsynet besørges ved Prof. *Huss*, der ogsaa har Fortjenesten af at have vakt Interessen for denne Anstalt, hvis Grundlægger han egentlig er. — Foruden dette Hospital besidder Stockholm et „Barnhus,“ der antager et stort Antal Børn af enhver Alder, der tiltrænge Forpleining, hvilken ydes deels i Anstalten og deels ved at anbringe Børnene i Familier mod Betaling. I denne Anstalt foregaaer den medicinske Underviisning i Børnesygdomme. Prof. *Berg* har i en Aarrække været Barnhusets Overlæge, men er nu, paa Grund af hans Beskæftigelse med statistiske Arbejder, eftertraadt af Dr. *Abelin*, der med Interesse og Iver fortsætter Prof. *Berg's* fortjenstlige Virksomhed som Lærer og videnskabelig Forfatter.

hvilke deres egentlige Kjendetegn ere, saa faaer man en Besvarelse velfortjent til *Henles* (Handb. der rat. Pathol.) dræbende Ord: „Blandt alle mangfoldigt misbrugte medicinske Personificationer sikkerlig den meest misbrugte!“ Skrophelsygdommen er den Bussemand, som man tillægger næsten alle de Sygdomme, som træffe Børn under 14 Aar, naar deres Aarsag ei er aldeles paatagelig. Dersom man gennemgaaer Beskrivelserne paa Skrophler, hvori ligger da det Specifike, som altid bør adskille en Sygdom fra en anden, og Sygdom fra Ildebefindende? Ikke i Aarsagerne, thi til Skrophlernes Aarsager regner man overhovedet Alt, som kan gjøre et Menneske sygt: Skrophler og alle andre Dyskrasier hos Forældrene, deres Alder og Levemaade, deres altfor store Ulighed og altfor nære Slægtskab, Klimatet og Jordbunden, Drikkevandet og Maden, Hede og Kulde, Lediggang og Anstrængelse, for tidlig og for seen Udvikling; — ikke i Constitution og Habitus, — thi ifølge engelske Lægers Anskuelser ere blonde Børn med hvid Hud, efter franske Læger brunette Børn fortrinsviis udsatte for Sygdommen. Da man af gammel Vane skjelner mellem en erethisk og torpid skrophuløs Habitus og dertil endnu lægger en blanded, saa findes vel knapt et eneste Barn, som kan gaae frit. Man paastaaer, at Skrophulosen er en Saftsygdom og med denne løse Bestemmelse faaer man lade sig nøie; thi man har neppe vovet paa at antyde det skrophuløse Blods Charakteer og det lønner neppe Umagen at gengive Resultatet af de faa Analyser, saasom de ikke vise og ikke kunne vise nogen Overeensstemmelse ved en saa mangeartet og chronisk Sygdom. Kunne vi igjenkjende den skrophuløse Dyskrasie af dens Localisation? Den angriber den ydre Hud, Slim- og serøse Hinder, Been

og Lede, Hjernen, Sandseorganerne, Glandlerne saavel de conglomererede som congloberede; den yttres sig ved Sygdomme i Hovedet, Brystet, Underlivet og Extremiteterne. Skal Localondernes Form bestemme Diagnosen? Skrophlerne optræde som Hypertrøphie og Atrophie, Udslag og Inflammationer, Beenblødhed, Kjertelforhærdelse, Afsættelse af uorganiske, organiske og organiserede Væv ja endog som Svamp, Orm og Luus. Tager man en saadan hastig Oversigt af de uforenelige Modsætninger i Beskrivelsen over Sygdommen „Skrophler,“ saa maa man til Slutning med Prof. *Berg* ansee den som et stort Pulterkammer for vor Uvidenhed om visse Forhold i Barnealderens Pathologie.“ I Aarsberetningen for 1855 kommer Prof. *Düben* igjen med nogle Bemærkninger tilbage til dette Emne, og Resultatet af hans Mening og Erfaring er, at en Mængde Glandelhævelser, især paa Halsen, opstaae som en secundær Localaffection, paa den Maade, at tilstedeværende Saar og Udslag gennem en Forplantelse af Irritationen til de nærmest liggende Lymphekar fremkalde en acut eller chronisk Kjertelsvulst, som herefter benævnes „Lymphadenit,“ et Forhold, hvorpaa ogsaa Prof. *Willebrand* i Helsingfors tidligere har gjort opmærksom, og som for en Deel kan finde en Støtte i Prof. *Berg's* Undersøgelser om den forholdsviis større Udvikling af Capillærnettet hos Børn i flere Organer, hvoriblandt ogsaa Huden. Finder det samme Forhold ogsaa Sted for Lymphekarrene, bliver Forplantelsen til og gennem dem ligeledes lettere, og det maa synes berettiget, at Prof. *Düben* efter Wiener-Skolens Exempel har udelukket Sygdomsbenævnelsen „Skrophulose“ af sin Sygdomstabel og paa en anatomisk Inddelingsbasis opstillet de særskilte Affectioner uden noget Hensyn til en formeentlig specifik Na-

tur, begrundet i den ubestemte og ukjendte skrophuløse Dyskrasie. Vil man see sig om, ytttrer Prof. *Düben*, efter Aarsagerne til den fortriinsvise Lethed, hvormed Lymphekjertlerne svulne hos Børn, savner man vistnok endnu en Forklaring for den directe anatomiske og physiologiske Undersøgelse, idet Kundskaben om Lymphekarsystemets Sygdomme blot kan ansees indtraadt i sit første Stadium gennem de, den senere Tid tilhørende, Undersøgelser om Leukocythämier. Imidlertid give dog Anatomie, Physiologie og Pathologie nogle Vink, som fortjene Opmærksomhed og hvilke af Prof. *Düben* ligeledes fremstilles i Forbindelse med den nys nævnte Iagttagelse af Prof. *Berg*. Saaledes har *Kölliker* (Mikroskopiske Anatomie) paaviist en mere sammensat Bygning i Lymphekjertlerne, end man forhen anede, idet han, som det synes, har godtgjort, at disse Kjertlers Corticalsubstants, omtrent som i Nyrerne, optager den gennem Vasa inferentia tilførte uberedte Lympe*) i fine Celler, hvorfra den efter en karakteristisk Bearbejdelse gennem Marvsubstantsens fine Rør føres til Vasa efferentia i en videre udviklet og for Indtrædelse i Circulationen tillempet Tilstand. Lymphekjertlerne faae herved en langt vigtigere Rolle, end man hidtil har paa anatomisk Grundvold tillagt dem, da de ikke blot tjene til Gjennemgang for det brugte og utjenlige Plasma i Organismen, men tillige til at forbedre de Dele af Plasmet som ikke kunne depureres alene gennem Lungerne. Deres physiologiske Betydning have ogsaa ældre Iagttagere været opmærksomme paa, og navnlig har Mesenterialgland-

*) Det nøiere Forhold hermed er vistnok endnu, usikkert og tør, som D. ytttrer, i Fremtiden kunne ventes udredet fra Würzburgs Physiologer. At Prof. *Virchow* nu i Berlin stadigen fortsætter sine Undersøgelser, er en kjendt Sag.

lernes Størrelse og Saftfuldhed i Barndommen været paaagtet i Sammenligning med Forholdet i den modnere Alder. Prof. *Düben* antager saaledes, at de hyppige Kjertelsvulster hos Børn beroe ganske paa anatomiske og physiologiske Karforholde, og at den Forskjel fra den sædvanlige Lymphadenitis hos Voxne, som dette Onde viser hos Børn saavel med Hensyn til Beskaffenhed som Frequents, er i fuldkommen Analogie med og ingenlunde større, end Forskjellen mellem de fleste-Sygdomsformer hos Børn og Voxne. Disse Former hos Børn behøve derfor ikke den tvivlsomme skrophulose Diathese til sin Forklaring, ligesaa lidt som man behøver at skyde nogen Diathese bagom den hele øvrige Række af de fra den fuldvoxne Organisme afvigende Børnesygdomme.

Det er klart for Enhver, at man ifølge en saadan Betragtningssmaade, hvorved de fleste Tilfælde af Kjertelhævelser opstaae som Følge af andre locale Onder, især Saar, Udslag paa Hovedet og i Ansigtet, Blephariter, Ulcerationer i Næse og Øren o. s. v., maa komme til det Resultat, saa hurtigt som muligt at behandle disse localt, uden Hensyn til de secundære Kjertelhævelser, der af sig selv ville svinde, og uden at anvende nogen formeentlig antiskrophulos Curmethode, hvilken Prof. *Düben* raader at bortlægge ved alle almindelige Tilfælde, da intet ved denne vindes og Børnene pines unødigen ved at tage modbydelige Midler. Kun i enkelte haardnakkede Tilfælde, hvor Kjertelsvulsten bestaaer længe efterat Primitivondet er hævet, kan ogsaa mod dem en Localbehandling blive nødvendig og i yderste Nød et Cursus af Jodkalium. — I consequent Forbindelse med disse Anskuelser om Kjertelsvulsternes Pathogenie anstiller Prof. *Düben* en Betragtning over den hos Børn saa hyppigt fremtrædende Melke-

skorpe (*Impetigo capitis*). Denne ansees oftere som et *Beneficium naturæ* og et Tegn paa onde Vædsker, som skulle ud; den skal ikke behandles videre end med Moderens Melk, ikke berøres med Vand o. s. v. Kjertlerne paa Halsen svulne herefter, og Udslaget behandles endelig, eller gaaer bort af sig selv, medens Kjertlerne vedblive, indurere og ere ude af Stand til at fungere. Barnet naaer det 2det eller 3die Aar, har imidlertid gennemgaaet et og andet Recidiv af *Impetigo*, nogle Coliter, Ondt for Tænder, hvilket har virket afledende. Pludseligt indtræder uden ydre eller indre Anledning en Katarrh paa *Conjunctiva oculi*, Barnet bringes til Lægen, som seer Øiet og de svulne Kjertler, og trøster Moderen med, at Barnet har Skrophler. *Blepharo-adenitis* (med *Keratit* o. s. v.), som hos Børn næsten altid antager en egen Form, ligesom *Bronchiter*, *Pneumonie*, *Coliter*, *Eczem* med flere Sygdomme som oftest hos Børn fremtræde under en anden Skikkelse, ikke ifølge nogen specifik *Diathese*, men af Alders-eiendommeligheder, hædres hos Børn strax med Navnet skrophuløs og dette Navn behandles, — med hvor stor Fremgang maa Læseren selv bedømme. — Var fra Begyndelsen af Melkeskorpen bleven behandlet rigtigt, havde man værdiget dens Conseqventser — *Lymphadeniterne* paa Halsen — en fornuftig Opfatning og Behandling, saa vilde *Blephariten*, om end opstaaet, dog ikke bleven saa slem at behandle. Vistnok kunne ogsaa Kjertelsvulster opstaae ifølge denne sidste og i Forbindelse med Saar og Sliimflod af Næsen; men værst er den dog, naar disse Svulster uhindret have faaet Frihed til at opstaae. Man bør erindre, at dette ikke er nogen Ubetydelighed, da de locale Onder holde Barnet sygeligt og hindre Nutrition og fremkalde *Anæmie*, — hvorfor ogsaa visse Personer ansee *Chimin* og

Jern som et Slags Specifica mod skrophuløse Øiensygdomme hos Børn, — og dette kan ofte lægge Grunden til, ja udvikle Sygdomme for hele Livet i de ædleste Organer.“

Det har været mig en Fornøielse at fremsætte disse saavel til Erfaring som til anatomisk-physiologisk Kundskab støttede Bemærkninger, og jeg er vis paa, at Colleger i Norge med samme Nytte ville læse dem, som visselig er Tilfældet i Broderlandet. Naar jeg imidlertid med al Agtelse og Respect for Forfatterens factiske Fundament saavel som for hans Induction, skal tillade mig at indgaae paa nogle Betragtninger over det samme Emne, der tildeels gaae i en anden Retning og lede til det Resultat, at Benævnelsen „Skrophulose“ betragtet fra et praktisk-medicinsk Standpunkt, ikke er saa uberettiget og lidet betydelende, som den efter Prof. *Düben's* Fremstilling unegtelig bliver, maa en saadan Discussion kun ansees at tilsigte en fleersidig Drøftning af en omstridt Lære, og Meningsvexlen som en Trang til at fremsætte til fælleds Belærelse det Standpunkt en raisonneret Erfaring lader mig for Tiden indtage. — For mig som for saa mange andre Læger har det alt længe været en klar Sag, at den ældre Lære om de forskjellige specifikke Localonder med en paatagelig specifik Charakter har været en saavel i praktisk, som physiologisk-pathologisk Henseende for en Deel uhjemlet og for en Deel endog skadelig, fordi en saadan Lære med dens som oftest usikre og umulige specifikke Diagnose, — hvoraf man igjen sluttete tilbage til en almindelig og ligesaa usikker specifik Organismediathese, — ledede til en Forsømmelse af en passende og tidlig Localbehandling af vigtige Onder, idet man for eksklusivt tænkte paa Almeenbehandlingen. Men idet den senere Tids Lære om de locale Onders Betydning og Tilbage-

virkning paa andre Organer og paa det hele Legeme maa tillægges en fuldkommen Berettigelse, er det paa den anden Side ikke stemmende med vor generel-pathologiske Kundskab at sætte Totalorganismens Tilstand i Baggrunden, fordi vi ikke med Bestemthed, ved Hjælp af physiologisk-chemiske og anatomiske Undersøgelser, kunne paavise nogen specifik Sygdomsdiathese, uagtet det ved et nøiagtigt og mangfoldigt Erfaringsstudium vil være muligt at afgjøre, at en abnorm og i flere Yttringer paaviselig Organismetilstand virkelig finder Sted. Vi tale ofte om en arthritisk, en rheumatisk, en leprøs, tuberkuløs og skrophuløs Diathese eller Dyskrasie, uden at vi endnu driste os til med et tilstrækkeligt Underlag af Beviser at paastaae, at vi fuldt forstaae, hvori disse abnorme Almeentilstandes Specificitet bestaaer, og dog kan det derfor ikke heller siges, at vi mangle al Berettigelse for en saadan Nosologie, det være sig, at vi ville hente en saadan fra physiologisk-chemiske Undersøgelser eller fra et samlet Symptombillede. Jeg er ogsaa overbeviist om, at dette heller ikke er Meningen med den i det Foregaaende fremskillede Deduction med Hensyn til Skrophulosens Fundament, som et for den praktiske Læge brugbart Begreb, hvorvel jeg fuldt vel maa indrømme, at Benævnelsen har været og er misbrugt til Skade for Behandlingen af de mange herunder indlagte Locallidelser. — Jeg antager, at Alle ere enige i som Udgangspunkt at henhøre den abnorme Sygdomsdiathese eller Dyskrasie, som har faaet Benævnelsen „Skrophulose“ til Virkningen af en mere eller mindre feilagtig Ernæringsproces i Barnealderen, altsaa til en Livets Periode, da Dannelse og Udvikling af den hele Organisme fortrinsviis skeer med Livlighed og heller ikke saa let taaler Afvigelse fra en naturlig Orden, som Til-

fældet er og bliver, naar Organismen i alle sine Dele har naaet en høiere Grad af Udvikling og en mere bestemt Dannelse. At Navnet er bleven Scrophula og Skrophulose kommer nok simpelt hen deraf, at man hyppigt i Forbindelse med en saadan Ernæring see Glandlerne svulnes i Lighed med Tinter hos Svinet (*Sus scropha*) og Kjertelsygdom blev da et Collectivnavn for den generelle abnorme Blandingstilstand, hvis Virkning man antog Kjertelsvulster for at være. — Gives der altsaa en saadan abnorm constitutionel Dyskrasie i Børnealderen eller er den i det Hele uden Berettigelse som et Begreb i den praktiske Lægevidenskab? Dette er Spørgsmaalet, og det er tilvisse ikke uden Vigtighed for den pathologiske og therapeutiske Anskuelse at gaae Begrebet, som af Prof. *Düben* lidt satirisk benævnes en „Buse,“ lidt nærmere ind paa Livet, for at vi kunne gjøre os det som praktiske Læger nogenlunde klart, om vi bør og tør ganske bortlægge det.

Der gives et Par Betingelser for en sund og kraftig Livsvirksomhed af den fødte Organisme, hvis Vægt visselig Ingen benægter. Den ene er en fra Forældre og Forfædre givet og medfødt Kraft og normal Textur i Legemets samtlige Dele, og den anden er, som Fortsættelse af Naturens høie Formaal, en, af ydre Forholde begunstiget, normal Ernærings- og Udviklingsproces, hvilken sidste faaer en større Betydning i Barnealderen end i modnere Alders befæstede Organisme. — Mangler det første Moment (*Racens* eller Individets kraftige Eiendommelighed) vil vistnok ofte en klog og omhyggelig Hygieine kunne efterhaanden forbedre de organiske Blandingsforholde, men altfor ofte vil dog Præget af en svagere Organisme senere vedblive. Er det andet Moment manglende, vil til Trods for en medfødt Kraft de organiske Forholde omstemmes

til det Værre og Sygelighed bliver Følgen. Ere Begge mangelagtige, bliver Tilstanden naturligviis endnu daarligere og Legemet vil lide i høiere Grad, i længere Tid, eller gaae tilgrunde efter Omstændighederne.

Betragte vi med et praktisk Livsblik Barneorganismen i sin Udvikling fra Fødselen af, fremgaaer det snart som et paatageligt Phænomen, at endog tilsyneladende sundt fødte Børn ofte lide af Sygdomsspirer, som efter nogen Tid vise sig for vore Sandser og undertiden under en ganske ødelæggende pathologisk Proces (Syphilis og flere heteromorphe Processer.) I andre Tilfælde viser den abnorme indre Livsvirksomhed sig først i Tidens Løb og under ydre Former, som vi vel, saa langt vore Sandser gaae, kunne nogenledes bestemme og vilkaarligt classificere, men hvis egentlige Grundlag eller Væsen vi ikke med nogensomhelst Sikkerhed formaae at udrede af Mangel paa en dybt indtrængende physiologisk og pathologisk Kundskab. En saadan abnorm organisk Blandingstilstand (Blod, Lympe og faste Dele) seer man saa ofte i Barnealderen ubedragelige Tegn paa, og dens ydre og indre paatagelige Virkninger med Hensyn til Textur og Function ere saa temmelig eensartede i al deres Mangfoldighed, at det maa synes naturligt, om den praktiske Læge endnu længe før den Tid, da Anatomie og Physiologie begyndte grundigen at gaae i Rette med Sygdomsbegrebernes Elementer og Fremstilling, fandt Trang til og Nytte af at generalisere, hvad der af enkelte Affectioner syntes at hvile paa et fælleds organisk Fundament. — Paa denne Maade er Sygdomsbenævnelsen „Skrophulose“ opstaaet. Jeg skal ikke vidtløftigen indlade mig paa en Meningsudvexling om, hvorvidt dette Begreb som noget væsentligt nødvendig maa medføre Bestemmelsen af noget specifikt Syg-

domsstof eller nogen afgrændset eensformig Diathese, thi dette er efter min Opfatning ikke nogen udelukkende Betingelse for Begrebets Berettigelse og Nytte i Praxis, hvorvel det for Physiologen maa være og bør være anderledes; men hvad jeg vil have fremhævet, er den Erfaring, at Ernæringsforholdenes (hos Foetus og det fødte Barn) feilagtige Tilstand under Barneorganismens Udvikling ofte fremfører for os et Fælledsbillede, der giver os en Ret til at betegne det som et generelt Sygdomsanlæg eller virkeligt Sygdomsbegreb. Hermed vil jeg som sagt ingenlunde have udtalt Tanken om en uforanderlig Eensartethed med Hensyn til de relative Blandingselementer som Betingelse for Dyskrasien, idet jeg tvertimod skal forsøge paa at fremstille forskjellige ydre Forholde, som neppe kunne medgive ganske eensartede Blandingsforholde; men naar Virkningen og Sygdomsformerne desuagtet antage en stor Overeensstemmelse, er hermed ogsaa det praktiske Standpunkts Ret for en Deel indrømmet.

Hvorvidt en sygelig Constitution af en saadan Beskaffenhed, som den man efter flere ydre Phænomener benævner skrophuløs, kan nedarves eller først erhverves efter Fødselen, er, som bekjendt, en omtvistet Sag, idet Nogle benegte denne Slags Arvelighed, medens en stor Deel Pathologer ansee den som en fuldkommen Kjendsgjerning. Stringente Beyiser ere her vanskelige at fremføre, saameget mere som Skrophulosen ikke er noget videnskabelig-pathologisk Begreb; men om vi see hen til de mangeartede Former i mange forskellige Væv af Organismen, som en syphilitisk Dyskrasie kan medføre og tillige betragte de dermed i nær Forbindelse staaende afledede og mere ubestemte Affectioner af Huden, Beensystemet og andre indre Organer, have vi dog idetmindste en Analogie at opvise,

der ikke er uden en vis Berettigelse, og dette saameget mere, som Physiologien heller ikke for den saakaldte syphilitiske Dyskrasie endnu har paaviist, hvori det egentlig Specifike bestaaer ved Blodblandingen eller Sammensætningen af de øvrige organiske Vædske og Væv. Radesygen (Theria) er maaskee heller intet andet end en efterhaanden degenereret Syphilis; og i ethvert Tilfælde ere vi ikke bedre bekendte med denne Dyskrasies inderste Natur, ligesaa lidt som vi ere det med Spedalskhedens. — Man har sagt, at den syphilitiske Dyskrasie tilsidst degenerer til en skrophuløs og efter Udseendet synes denne Paastand langt fra blottet for Rimelighed. At Drankerforældres Vædskeblanding har en særegen Arveindflydelse, har ligeledes ofte været sagt, og at saavel denne som saamange andre, ifølge flere Aarsager bevirkede, sygelige Constitutionsforholde hos Forældrene mærkes paa Børnene, er ingen tvivlsom Sag. — Gaae vi et Skridt videre og betragte baade en abnorm Alimentations og ellers mangelfuld Hygieines Følger paa Barneorganismen, ville ret ofte finde, at en i de første Aar efter Udseende medfødt sund Organisme efterhaanden antager Udtrykket af en heelt igjennem mindre normal Beskaffenhed. At Fødesættet i Forbindelse med Luft, Lys, Bevægelse o. s. v. i denne Henseende ere væsentlige Agentser følger ligefrem af vor physiologiske Kundskab og stadfæstes af Erfaringen. Med Hensyn til Alimentationen synes dog en temmelig paatagelig Forskjel at finde Sted. For en Deel Børns Vedkommende vil det nemlig være Tilfældet, at Alimentationen i det Hele er utilstrækkelig, saaledes at den ikke samlet frembyder de for Organismens Uddannelse og normale Næring nødvendige Stoffe, hvortil den desuden ogsaa i anden Henseende kan være mindre hensigtsmæssig. Den nu for Tiden over-

haandtagende Brug af Kaffeinfus i Forbindelse med en eensidig Meelføde, istedetfor Melkemad og anden let fordøielig animalsk Føde, kan regnes herhen, og saaledes opfødte Børn vise ogsaa snart Tegn til, at Blodet ikke faaer den til Afsættelse i Organerne nødvendige Sammensætning. Jeg har en Tanke om, at disse Børn forholdsviis lettere udsættes for Beensygdomme, idet Hovedbenenes rachitiske Form, Arthrokacer med Caries, Deviationer af Rygraden og Brystet samt maaskee ogsaa Opdrivning af Epiphyserne ofte hos dem sees, uden at de lide af nogen stærkere Udvikling af det lympathiske System. — En anden Classe af Børn, og denne er vistnok den største, faae tidligt i Børnealderen en altfor rigelig Mængde Føde, der enten er fortrinsviis meelrig og dertil en saadan, som vanskeligen fordøies, idet Stivelsekornene ere uberedte og tildeels ikke sprengte, fordi den gives i Form af en Masse Grød eller Velling, — eller Føden er meget varieret, men saa overlæssende rig paa alskens sammensatte Sager, at Barnefordøielsen og Blodet tilføres mere af Stofte, end Aandedrættet og de øvrige Excretionsorganer godt kunne bearbejde og igjen skille Organismen af med. At en stor Mængde af saadanne Børn blive, hvad man kalder skrophuløse, er en kjendt Sag, og det er under disse Forholde ogsaa forklarligt, naar det ofte hedder, at et Barn, der i de tidligere Aar syntes sundt, efterhaanden bliver sygeligt og usundt; thi det er en gammel men visselig sand Sætning den, at forholdsviis faa Børn blive sygelige, fordi de spise forlidet, naar den sparsomme Føde er god og fordøielig, men tvertimod Mange, fordi de spise for meget. Kommer nu hertil at Kaffe, Thee, Øl o. s. v. ret ofte medgives den iøvrigt overlæssede Diæt, bliver Tingen endnu lettere at tyde, saasom det nu bør ansees godtgjort,

at disse Nydelser heller retardere Stofomvexlingen, og saaledes bidrage til, at Blandingsforholdene blive abnorme. Et af Melkens store Fortrin som Ernæringsmiddel, især i Børnealderen, er sikkerlig den at tilføre Organismen en stor Mængde Vand i Forbindelse med de mangeartede nærende Bestanddele, da Stofvexlen herved i høj Grad befordres og Excretionerne foregaae med større Lethed, en Fordeel, som netop i den voxende Organisme ikke kan vurderes høit nok. Den ofte hørte Indvending mod Melk, at den ikke bekommer, har efter min Overbeviisning sin Grund deri, at man ikke gjør sig den fornødne Umage med at lempe Nydelsen efter Omstændighederne, og især gjælder dette, hvor der er Tale om Melkens Tilbøielighed til Syredannelse, hvilken dog med stor Lethed imødegaaes ved at tilsætte en Smule Natron eller Kali carbonicum og for ældre Børn en Smule Kogsalt. Kogt Melkemad er i saa Henseende ogsaa meget at anbefale. Paa de nysnævnte forskjellige hygieiniske Forholde beroer uden Tvivl for en stor Deel ogsaa Forskjellen af den sygelige Vædskeblanding og dens Følger, som Børn kunne udvise, og naar man har forsøgt at opstille en i Praxis gjængs Distinction af den saakaldte skrophuløse Diathese, i en erethisk, en torpid og en blandet Dyskrasie, kan dette maaskee for Lægen have nogen Værd, men maa for den rationelle Physiolog og Patholog være af liden Betydning, saalænge en nøiere Bestemmelse af Diathesens differentielle Beskaffenhed endnu mangler. Saavist det imidlertid ikke lader sig benegte, hvad der ligger aabenbart for Iagttagelsen, at den hele Constitution lider under en abnorm Ernæringsproces, gaaer det heller ikke godt an at borttage dens Betydning ogsaa for locale Onder, og den ligefrem heraf flydende Trang til en Generalisation,

skjønt det bestemt maa indrømmes, at den praktiske Læge i denne Henseende har taget sig Sagen for let, og ikke skjelnnet mellem en saadan sygelig Barne-Constitutions forskjellige Aarsagsforholde, hvilket upaatvivleligt ogsaa for Therapien er af Vigtighed og mangen Gang giver en Forklaring af den store Dissents i Meninger om Midlernes Nytte. Naar flere Læger saaledes ingen Nytte ville have seet af Fisketran, medens Andre rose den i høie Udtryk, kommer sandsynligviis Uenigheden ofte deraf, at man ikke har taget det nødvendige Hensyn til den saakaldte Skrophuloses Oprindelse og Causalmomenter; thi det synes paatageligt, at den i det Hele maa bekomme usle og underfødte Børn bedre, end overfødte og vel nærede Individer.

Gjør man i Bedømmelsen af disse sygelige Ernæringsforholde hos Barnet den behørigte Distinction, kan jeg ikke forstaae andet, end at vi endnu med praktisk Nytte maa kunne bruge det „Pulterkammer“ for flere Affectioner i Børnealderen, som vi her omhandle, indtil vi af en fremskridende Undersøgelse erholde en grundigere physiologisk Basis. Enten man altsaa kalder dette pathologiske Grundlag: en lymphatisk eller leuco-phlegmatisk, eller leukæmisk eller skrophuløs eller tuberkuløs eller rhachitisk Constitution, Diathese eller Dyskrasie, alt eftersom man nærmest seer hen til dens meest paaviselige Følger og sygelige Phænomener i Beensystem, Blod- og Lymphesystem, Slim- eller serøse Hinder o. s. v., saameget staaer dog sikkert, at man gennem en vel overveiet og især i anamnestisk Henseende nogenlunde vel opgjort differentiell Diagnose af Almeentilstanden, vinder et bedre Standpunkt for en generel Pathologic og Therapie, end man gjør ved at betragte de mangeartede Yt-

tringer af en abnorm Ernæringsproces i Barnealderen som blot locale Affectioner.

Hvorvidt man er berettiget til i Almindelighed at ansee de hyppige Opdrivninger og Svulster af Glandlerne (Lymphadeniter) som secundære Affectioner ifølge en Forplantelse fra et eller andet forudgaaet localt Onde (Impetigo-Eczem o. s. v.) er et Spørgsmaal, som er vanskeligt at afgjøre i mange Tilfælde, fordi det saa særdeles ofte er Tilfældet, at disse mindre Localonder gaae forud for en Glandelsvulst og Afsætning af den saakaldte Skrophelmaterie, uden at den rette Causalforbindelse hermed er opgjort. Hvis jeg skal drage nogen Slutning af det Sygdomstal af denne Beskaffenhed, som har dannet Belægget paa Børnehospitalet, maa den udfalde aldeles modsat den af Prof. *r. Düben* fremstillede Mening; thi det er en Kjendsgjerning, at af saantlige skrophuløse og rhachitiske Patienter i de forløbne Aar, der have lidt af chroniske, impetiginøse og eczematøse Saar i Hovedets behaarede Deel, i Ansigtet, i Palpebralranden (Blepharoadenit) eller af Udflod i høiere Grad af Næsen eller af Øret, har Ingen havt større og de fleste slet ikke viist Kjertelsvulster paa Halsen, og dog har et større Antal af de behandlede Børn frembudt et eller andet Udgangspunkt af en local Hudaffection. Dette Forhold er maaskee mere tilfældigt for det korte Tidsrum af Hospitalets Virksomhed og det mindre Antal Børn i det Hele, men det stemmer forøvrigt med den Erfaring jeg ogsaa har gjort i privat Praxis, hvorvel jeg langt fra vil benegte, at chroniske Kjertelsvulster ofte findes hos os. Min Forklaring er saaledes heller den, at en abnorm Blodblanding og en forstyrret Ligevægt mellem Tilgang og Afgang af Næringsstofferne bevirker Stagnation i Glandelsystemet og Udskillelse af det

Stof, der ikke kan bearbejdes af Glandelen og bortsendes gennem Vasa efferentia. Herved opstaaer Udsvedning og Ansamling af Skrophelmaterie, om hvis Analogie med Tuberkelmaterie der neppe hersker Tvivl, skjønt der disputeres om deres fuldstændige Identitet. Meget muligt er det forresten, at under en saadan Almeendisposition en Irritation gennem Vasa lymphatica - fra et gammelt Saar med skarp Afsondring kan forplante sig til Glandelen, og ved den vakte chroniske Betændelse endmere befordre en saadan Stagnation og Udsvedning; men som den egentlige eller hyppigste Oprindelse til Skrophelsvulster anseer jeg den ikke for at være, og dette ligesaa lidt paa Halsen som i Underlivet, hvor et saadant Udgangspunkt ikke vil findes uden i Tilfælde af Tarmsaar under chroniske Diarrhoer. Opdrivningen af Beenepiphyserne (Rhachitis), Deviationer af Rygraden, Pectus carinatum o. s. v. ere Udtryk af en lignende dyskrasisk Tilstand*) og det samme

*) Man vil af disse Ytringer i Forbindelse med den hele Fremstilling see, at jeg ikke har anseet det nødvendigt fra et generelt-nosologisk Standpunkt skarpt at distingvere mellem Skrophulose, Tuberkulose og Rhachitis, hvad Flere gøre, og som ogsaa med Hensyn til de locale Udtryk for disse Dys-trophier godt kan skee og vistnok ikke heller er uden Betydning for Behandlingen, hvad jeg i det Følgende vil videre udhæve. Betragte vi imidlertid den store aetiologiske Overeensstemmelse mellem disse abnorme Nutritionstilstande, tør det vel blive Resultatet, at Abnormiteterne i de angrebne Organdele ere i nosogenetisk Henseende mindre forskellige end de see ud til og væsentlig afhænge af enkelte fremstikkende Aarsagsforholde, der tilhøre det hygieiniske Gebeet, og hvorved den ene eller anden Form nærmest begunstiges. — Blandt de Forfattere, der nøie skjelne mellem Rhachitis paa den ene og Skrophler samt Tuberkler paa den anden Side, er den erfarne *Trousseau* (Gaz. des Hôpit. Nr. 101. 1856), som temmelig bestemt udtaler, at der imellem dem eksisterer en virkelig Antagonisme, saaledes at et rhachitisk Barn er frit for de andre Former. Arv, Fugtighed og Mangel

er Tilbøieligheden til Tuberkelafsætning i de serøse Hinder, hvilke aldrig kunne betragtes fra et eensidigt localt Synspunkt, men kræve det bestemteste Hensyn til Ernæringsprocessen, om de med noget Haab om Virkning skulle imødegaaes.

Ifølge mine Anskuelser og min Erfaring kan jeg saaledes heller ikke være ganske enig med Prof. *Düben* i den Mening, at Glandelsvulsterne i Barnealderen ikke ere i det Væsentlige og med Hensyn til deres Oprindelse forskellige fra Lymphadeniter (Buboner) hos Voxne; thi kun i de Tilfælde, hvor Blod- og Lympheblandingen er i en chronisk sygelig Tilstand vil Ligheden blive paategelig, medens Adeniter hos Voxne, der ret ofte opstaae ved Forplantelsen af et Irritament eller Betændelse — specifick eller ikke — hurtigen tabe sig med den oprindelige Aarsags Fjernelse, enten ved Resolution eller Supuration, hvorimod der kun i forholdsviis sjeldne Tilfælde vil blive Tale om nogen stadig eller chronisk Afsætning af Skrophelmaterie. Paa samme Maade vil omtrent Gangen blive, om en acut Glandelsvulst ved en Irritation opstaaer hos et ellers nogenlunde blodsundt Barn; den vil

paa Lys ere vigtige Aarsager til Rhachitis og dernæst mangeltig Diæt. Forresten synes visse Lande mere befriede for denne Sygdom, f. Ex. Spanien og Italien. medens den er hyppig nok i andre europæiske Lande. Det er muligt, at Rhachitis tilforn var hyppigere hos os; men for Tiden synes det, som om denne Form af Ernæringsprocessens Mangelfuldhed er mindre udtalt og dette fornemmelig i Sammenligning med de andre oftere nævnte Sygdomsformer. Det er ogsaa en Kjendsgjerning, at rhachitiske saavel som andre osteomalaciske Bækkenformer i høiere Grad ere yderst sjeldne i vort Land, medens der i Tydskland, Holland, Belgien, England og Frankrig forekommer mere og mindre hyppigt Bækkensnæverhed i høi Grad saavel af denne Aarsag som af Bækkenbeenblødhed, opstaaet i den ældre Alder.

under en passende Behandling og Ernæring ikke let blive chronisk eller sammenkjæde sig med andre Svulster af lignende Natur paa flere Steder.

I nøie Forbindelse med Betydningen af Næringsvædskernes abnorme Blandingsforholde under Udviklingen af Barneorganismen og Vanskeligheden for Organerne i behørig at bearbejde og udskille de tilførte Næringsstoffer, staaer efter min Tanke tillige det Phænomen, at den ydre Hud hos Børn saa ofte angribes af Impetigo-Eczem o. s. v. med paafølgende chroniske Secretionsflader; og jeg maa tilstaae, at jeg her er meget tilbøielig til at tiltræde vore Forfædres Mening om det relativt rensende og afledende i disse Afsondringer, saavel som om det Betænkelige i paa en hurtig Maade at udtørre dem ved locale Midler. Denne Mening er, som vi vide, for en stor Deel gaaet over i Folketroen, hvoraft sikkert nok Skade er opstaaet, fordi den er bleven eensidig og saaledes har ledet til Ureenlighed og Forsømmelse af en fornuftig saavel almeen som local Behandling i Tide, men dette er i nogen Maade ogsaa forklarligt deraf, at man ret ofte seer saadanne Børn have en god Appetit og trives ret vel, indtil en modnere Alders forandrede organiske Forholde hæver den barnlige Organismes eiendommelige Tilbøielighed til en abnorm Hudsecretion. Den samme Opfatning deles ogsaa endnu af flere Læger*). Naar den voxne Organisme til Gjengæld under feilagtige Blodblandingsforholde mere disponerer til en abnorm Afsætning i indre Organer, hvis Følger ofte ere mere farlige for Sundhed og Liv, da bliver dette heller ikke at betragte som blotte locale On-

*) Cfr. *Bierbaum* i *Journal für Kinderkrankh.* 9 og 10 H. 1855. S. 183.

der, hvis Væsen er opgjort med en anatomisk-pathologisk Redegjørelse for de elementære Forandringer, men rigtige som et Udtryk eller en Localisation af den abnorme Blanding af Organismens Næringsvædske.

At jeg i denne første Beretning om vort Børnehospitals Virksomhed har indgaaet paa en temmelig vidtløftig Betragtning af den saa ofte nævnte skrophuløse Dyskrasies Betydning, vil neppe ansees overflødigt eller paa urette Sted, da locale Onder hos de i et saadant Hospital behandlede Patienter maae henføres til et saadant Fundament, for at de ikke skulle blive i for høi Grad satte ud af Forbindelse med det for en virksom Cur nødvendige Hensyn til Totalorganismen.

Det staaer tilbage at omhandle den almene Behandling; men inden jeg gaaer over til at omtale denne, forsaavidt vort lille Hospital angaaer, troer jeg, at det ikke vil være uden Interesse at være opmærksom paa de Yttringer, der fremkomme fra andre Læger, der hente deres Erfaring væsentlig fra en Almeenbehandlings Virkninger og som en saadan Behandlings Repræsentanter kunne vi hovedsagelig ansee Badelægerne. Som vi Alle vide, have enkelte Bade et fortrinligt Renommée for at virke mod Skrophulose. See vi hen til deres Virkning mod saavel en antagelig lymphatisk Constitution som mod locale Hævelser af samme Natur, gaaer det ikke heller godt an at fraskrive dem denne, og i Analogie hermed heller ikke anden almindelig Behandling, som mere eller mindre har en Tilbageførelse til Organismens normale Blandingsforholde til Hensigt. I en Fremstilling af Badet „Cronthal's“ Virkninger i Skrophulose af Dr. Küster (Deutsche Klinik Nr. 17, 1855) forekommer følgende Yttringer, som fra et praktisk Synspunkt meget godt lade sig læse og neppe heller ere blot-

tede for Værd i pathologisk Henseende, hvorvel de lige-
saalidt som saamange andre Betragtninger kunne gjøre
Fordring paa en udklaret physiologisk Betydning.

„Betragte vi Skrophulosens Væsen, da finde vi, at
hos disse Patienter, Systemer ere angrebne, paa hvis In-
tegritet Organismens Udvikling beroer, navnlig Fordøielses-
og Lymphesystemet. Af det første afhænger igjen for en
stor Deel Blodsystemets Virksomhed og Chemismen af
mange Functioner i Legemet. Af de forskjellige Forstyr-
relser i Functionen af Mave, Tarmkanal og sandsynligviis
Lever, Milt og Pankreas (Heteropepsie), følger en uregel-
mæssig Excretio alvi og Urinafsondring, Forøgelse af
phosphorsure Salte og Formindskelse af stikstofholdige
Forbindelser, en ringere Mængde Urinsyre og en større
af Oxalsyre. Af denne hindrede Chymi- og Chylification
afhænger den slette Blodbeskaffenhed, — om man just
ikke vil betragte denne som noget nedarvet eller endog
med *Bredow* som en eiendommelig Skrophelmaterie. —
Blodet siger *Vetter*,*) er fattigt paa faste Bestanddele og
coagulerer efter *Dubois's* Undersøgelser langsomt med en
lille og blød Kage i et tyndt og hyppig rødfarvet Serum
og Blodlegemerne vise sig tildeels affarvede. Heraf slutter
Simon til en formindsket Saltmængde i Skrophuløses
Blod, formodentlig paa Grund af den Indflydelse, som
saltholdige Fluida udøve til Bevarelse af Blodlegemernes
Form. At Jernholdigheden er ringere turde ogsaa være
antageligt af Blodlegemernes ringere Mængde. *Kütner***)
yttrer sig i samme Retning derhen, at Blodets Oxydations-
proces savner den nødvendige Energie, og ligesom den

*) *Schmidt's* Encyclopædie. B. V. Art. Scrophula.

**) Scrophelsucht ibid. 3 Supplb.

formindskede Saltmængde af Blodserum hindrer Blodbestanddelenes Stofinetamorphose, saaledes er navnlig Forvandlingen af den under Fordøielsen af stikstoffrie Næringsmidler dannede Melkesyre til Kulsyre og Vand forstyrret. De sygelige Affectioner af det lymfatiske System og Afsætningerne i Glandlerne paa Halsen, i Underlivet o. s. v. finde en Forklaring i Blodbeskaffenheden, hvorved ogsaa Capillærnettet og Huden lide. Det er en Bemærkning af *Schönlein*, at Skrophulose har tiltaget i Tydskland og ellers i Europa fra den Tid, Brugen af Bade har aftaget, medens den i Orienten skal være mere sjelden.“

Angaaende den nyere Tids Anskuelser om Skrophulose kunne flere franske og engelske Forfattere med Gavn benyttes. Engelskmanden Dr. *Phillips's* store Arbejde om „Scrofula,“ London 1846, hvortil Materialier ere hentedede fra flere Verdensdele, og Franskmandene *Rilliet's* og *Barthez's* omfattende Værk om Børnesygdomme, hvis senere Udgave ogsaa er oversat paa Tydsk, give værdifulde Bidrag til Bedømmelsen af dette Sygdomsbegrebs Berettigelse. I første Bind, 1847, af vort Magazin for Lægevidenskaben har tillige Dr. *Blich* i Drammen givet en udførlig Anmeldelse af disse 2de Arbejder, som sikkert altid vil læses med Interesse og Nytte. Naar der skal være Tale om en, saavidt vor Kundskab strækker sig, rationel Behandling af den sygelige Ernæringstilstand i Barnealderen, som betinger saamange forskjellige localiserede Onder af det Slags, vi ere vante til at henlægge under en skrophuløs Diathese, da er det vel en let Sag at blive enig om, at sunde og for Barnedigestionen passende Fødemidler, frisk Luft, Lys og activ Bevægelse ville udgjøre en Therapie, som er hensigtsmæssig og efterhaanden fører til Maalet, enten man kalder den abnorme Nutrition en

lymphatisk-skrophuløs, tuberkuløs eller rhachitisk Dyskrasie. Men da det, som ovenfor antydet, ikke for Behandlingen kan være ligegyldigt, paa hvilken Maade eller rettere under hvilke særegne hygieiniske og alimentære Forholde en abnorm Blod- og Lympheblanding er opstaaet, og det ofte synes af disse Forholde forklarligt, at i nogle Tilfælde fortrinsviis Beensystemet, i andre Hudsystemet og Glandelapparatet lide, er det maaskee med god Grund, at specielle Hensyn under vore Bestræbelser for at regulere Ernæringen gjøres gjældende. Det for vort Børnehospital antagne Bespiisnings- og Diæt-Reglement er vedføjet denne Beretning, og det vil af samme erfares, at vi have havt det Formaal for Oie at byde Føde af en varieret Beskaffenhed, og især Kjødet i en mere fordøielig Form, end i Almindelighed skeer, naar Diæten reguleres for et Hospital i Almindelighed. Jeg har søgt at blive bekjendt med Spisereglementer for flere Børnehospitaler*), da Eiendommeligheder vedkommende Ernæringsforholdene i de forskjellige Lande herved frembyde sig og ere belærende, men en paalidelig Sammenligning med Hensyn til Virkningen kån jeg af Mangel paa egen Undersøgelse ikke fremstille. I Beretningerne fra Prindsesse Louises Børnehospital i Stockholm er dette Reglement ikke optaget, derimod er jeg i Besiddelse af et for det store Barnhus gjældende Reglement, ligesom jeg under mit seneste Ophold i London har medtaget Diætregulativet for det der nys oprettede Hospital for Børn, hvilke begge jeg i Aftryk meddeler i Grundspirogene, forsaavidt dette maatte interessere Colleger her i Landet. Af de i andre Lande

*) Cfr. Beschreibung sämtlicher Kinderheilanstalten in Europa von Dr. F. Hügel. Wien 1849.

gjældende Regulativer synes mig det for Prager-Børnehospitalet og Hospitalet i Brünn („zu St. Cyrill und Methodus“ kaldet) bestemte ganske hensigtsmæssige, skjønt de ikke byde saamegen Variation som det hos os anvendte. Det er forøvrigt en Selvfølge, at Lægen ikke er saa strængt bunden til et Reglement, at flere mindre Forandringer og Tillæg kunne gøres efter Alder, Sygdomsbeskaffenhed o. s. v. og saaledes bliver Extradiet, saasom Æggeblomme*), Viin, Øl o. s. v. undertiden tilstaaet, men dette er i det Hele sjelden, og hvad de sidstnævnte Drikke angaaer, ere de yderst sjelden komne til Anvendelse, og mere at betragte som Medicamenter, medens i enkelte andre Hospitaler Viin oftere tilsættes Diæten. Blandt de Midler saavel mod en skrophuløs Habitus som mod de locale Onder, der hvile paa og bære Præget af en lymphatisk Constitution, hvilke fra ældre Tid have nydt Anseelse, har jeg aldrig anvendt Antimonialia eller Baryt. muriat. (*Hufeland*) og kun i et enkelt Tilfælde Mercur indvendigt, fordi jeg ikke anseer en længere Tids Brug af disse, for Organismen fremmede, Metalmidler for hensigtsmæssig. Dr. *Hauner*, der er Læge ved det store Børnehospital i München, forkaster ogsaa, efter dermed gjorte Forsøg, ganske de 2de førstnævnte Midler**). Derimod ere flere andre med Ernæringsprocessen mere forligelige Midler stadigen forsøgte i Forbindelse med Diæten. Et af disse Midler, der dels kan henføres til Alimentationen dels betragtes som Medication, er den meget anvendte

Levertran. Neppe er noget enkelt Middel nogen-

*) Dr. *Erpenbeck* anbefaler meget Æggeblomme som Næringsmiddel for Børn, fortyndet med Vand. (*Hannover. med. Correspond.-Blatt og Neue med. chir. Zeit.* 10 Juni 1854).

**) *Journal f. Kinderkrankh.* H. 9—10. 1855.

sinde bleven brugt i den Udstrækning som Tranen, idet den foruden i de rene tuberkuløse Affectioner tillige er givet i alle Slags skrophuløse Onder, hos rigeligt nærede og slet nærede Individuer, i Rhachitis og andre Beensygdomme med og uden Caries, og i de forskjellige Livsaldere, fra Barnets første Aar ligetil den Periode, da Reproductionen foregaaer med større Langsomhed. Det er begribeligt, at en saa mangfoldig og indiscriminat Brug af eet og samme Middel maatte lede til meget forskjellige og tildeels modsatte Anskuelser om dets Nytte, og hvad specielt de skrophuløse Affectioner angaaer, erfare vi, at nogle ansee efter en nøiagtig Prøvelse Tranen for unyttig, medens Andre rose den i høi Grad efter deres Erfaring. Det bliver vel her som saa ofte Tilfældet, at begge Parter have baade Ret og Uret, og at Forklaringen af den store Differents maa søges i forskjellige deels generelle deels individuelle Forholde. Det er saaledes efter min Erfaring ikke den samme Sag, om Tranen anvendes mod locale Affectioner, der ere Udtryk af en overnæret og fed Organismes Tilbøielighed til Stagnation og medfølgende abnorme Secretionsprocesser, eller om den bruges, hvor Næringen væsentlig har været mangelfuld med Hensyn til de quantitative Forholde af de Bestanddele, en sund Nutritionsproces udkræver; thi i første Tilfælde vil den neppe gjøre godt, men maaskee det Modsatte, hvorimod den i andet Fald kan vise en meget god Virkning. Herhos fortjener ogsaa den Erfaring at lægges Mærke til, at Tranbehandling i de Affectioner, som fortrinsviis efter deres Maade at fremtræde paa benævnes rhachitiske, viser en synlig bedre Virkning end i dem af en mere speciel skrophuløs Natur. Dr. *Hauner's* rige Erfaring fra Børnehospitalet i München gaaer bestemt i denne Retning, idet han

beretter, at Levertran med. udmærket Nytte har af ham været anvendt i mere end 200 Tilfælde af Rhachitis, medens han erklærer den aldeles uvirksom i Skrophulose. Vistnok gjøre andre erfarne Læger, til Ex. Dr. *Tott**) ikke den samme Forskjel, men anbefale den vedholdende brugt i udtalte skrophuløse Uleera, hvor just de af ældre Practici (*Bordeu, Hufeland, Stoll*) fremhævede Tegn paa Diathesen, saasom svullen Overlæbe og stærk Secretion af Næsen, ere tilstede, men da *Tott* til samme Tid roser alle de gamle Midler o: China, Jern, Calamus, Mercur, Baryt o. s. v. bliver det tvivlsomt, om Erfaringen her er vel konstateret, da naturligviis Diætforholdene i det Hele maae komme i væsentlig Betragtning, og det er klart nok, at man ikke godt kan behandle de forskjellige Folkeklassers Ernæringsabnormiteter paa en generel Maade.

Hvor Tran endog fortrinsviis synes indiceret, nemlig hos slet nærede, magre og rhachitiske Individuer, bliver det ofte en vanskelig Sag at anvende den vedholdende, fordi Digestionen let forstyrres under Brugen og maaskee især ved den fede Olies Tilbøielighed til Decomposition. For at imødegaae denne Uleilighed har jeg allerede i mange Aar samtidigt anvendt et eller andet bittert Middel, da jeg anseer de spirituøse Tincturer, Brændeviin eller stærkt Øl for lidet hensigtsmæssige i Barnealderen paa Grund af deres stagnerende Virkning paa Stofvexlen. Et simpelt Infus af Hb. absynthii alene eller med lidt tilsat Cinnamomum eller Calamus har efter min Erfaring gjort god Tjeneste i Portioner af en lille Theekop nogle Gange daglig, og med lidt Ihærdighed har det altid lykkedes at bringe Børnene til at nyde dette Middel uden Modstand,

*) Journal der Kinderkrankheit. H. 11 og 12. 1855.

skjønt det i Begyndelsen koster lidt Bryderie paa Grund af den bittre Smag. I den senere Tid har jeg begyndt med at sammensætte denne Thee af lige Dele Hb. absynthii og Folia juglandis regia, da Valnøddeblade af flere Læger ere roste som et godt antiskrophuløst Middel, og dette Infus bruges nu ogsaa paa Børnehospitalet uden Tran, naar denne hos fede og velnærede Børn er mindre indiceret. Hos saadanne Børn synes ogsaa en rigeligere Nydelse af reent Vand at virke godt i Forbindelse med en passende god Diæt, da Erfaringen viser, at Vanddrikning i høj Grad befordrer Stofomvexlingen og Udskillelsen af unødige og overflødige Bestanddele gennem Excretionerne især af Nyrerne. I samme Hensigt kan ogsaa svage Decocter af Sassaparilla og andre saakaldte blodrensende Midler med Nytte bringes i Anvendelse. Af bittre Sager skal jeg endnu nævne vor gamle Tinctura aperiens med eller uden Asa foetida som et ganske godt Middel, da det ved sit Kalisalt tillige har en god Virkning paa Tilbøieligheden til Sliimafsondring hos lymphatiske Patienter.

Den Uenighed og Usikkerhed, som mellem Lægerne finder Sted angaaende Tranens Virkemaade, samt om de af dens Bestanddele, man nærmest skal tillægge dens Effect, har som bekjendt ledet til flere Forsøg med andre oleøse Substantser, til hvilke man ogsaa har sat Iod i den Tanke, at et godt Surrogat herved kunde opnaaes. Jeg kan ingen sikker Mening have herom, men da det, ifølge de seneste Erfaringer om Tilstedeværelsen af Iod som Bestanddeel, skjønt i yderst ringe Qvantitet, af en Mængde vegetabiliske Substantser, af Luften, af Vandet, kan ansees godtgjort, at Samme stadig indføres i Organismen, ligger den Tanke nær, at dette virksomme Stof har en bestemt Indflydelse paa Ernæringsprocessen, hvad desuden

dens Brug som Medicament i større Doser tilfulde viser. Ledet heraf har jeg til Brug for lidt ældre Børn tilsat lidt Iod til den lyse rene Tran (5 Draaber Iodtinctur til $\frac{3}{8}$ Tran), som vi nu i Almindelighed bruge, og da jeg tillige gjerne ønskede at combinere med en længere Tids Brug af Tran et blodstyrkende Middel, har jeg desuden tilsat lidt saltsuurt Jern, hvorefter Tranen kun holder en yderst ubetydelig Qvantitet. Om Jernets Nytte i Skrophulose, naar det kan bibringes i en fordøielig Form, har man længe været enig, og hos lymphatiske blodblege Patienter er dette Stof vistnok paa sin Plads. Den senere Tids Anskuelse herom, der gaae ud paa at betragte Jern mere som et Nutritionsmiddel end som et Medicament, og derfor at give det i Forbindelse med Maaltiderne, er i flere Henseender at anbefale og den franske Forfatter *Quévenne* har i sin prisbelønnede Monographie om Jernpræparater ogsaa insisteret derpaa. Det af ham anbefalede *Ferrum reductum* har jeg ikke anvendt hos Børn, men oftere hos Voxne med Chocolate og paa anden Maade, men jeg vil gjerne troe, at det ogsaa i Børnealderen er anvendeligt. Den med Iod og Jern blandede Tran tages med Lethed og fordøies godt af Børn, og jeg kan ikke ganske dele en Ytring af Prof. *Düben* i hans Beretning, naar han ogsaa taler misbilligende om disse for Børn „modbydelige“ Midler, hvorefter en efter hans Mening ofte unyttig Almeenbehandling bestaaer.

En methodisk Anvendelse af Iodkalium mod Kjerter har jeg ikke brugt, derimod oftere i Affectioner af formeentlig syphilitisk Natur og enkeltviis i tuberkuløs Meningit og Hypertrophia cerebri.

Angaaende Brugen af udvendige Midler i de forskellige Hudsygdomme paa skrophuløs Bund da hylder jeg

som anført for en Deel de Gamles Mening om det Betænkelige i med Hurtighed at bringe dem til at svinde ved reprimerende Midler, da jeg i deres Tilstedeværelse som chroniske Onder ofte seer en Nisus depurandi hos Organismen, som Nyrerne og den øvrige Hud ikke kan fuldføre, hvis Næringsmidlerne ere uhensigtsmæssige og Assimilationen daarlig. Derimod er jeg fuldkommen af den Mening, at disse tilvante Secretionsflader bør holdes i høi Grad rene, og at forskellige omstemmende Midler med Nytte paa dem kunne anvendes uden mindste Fare for nogen hurtig Repression af Secretionen. Grønsæbe, Transæbe, Lapis infernalis til Pensling o. s. v. virke godt i chronisk Eczema-Impetigo, og saadanne Midler kunne varieres meget. En udvendig Behandling, jeg desuden specielt maa tillade mig at omtale, er den med omvexlende og kortvarige Exutorier, som Aflednings- og Depurationsmidler, hvorved de gamle Udslag ogsaa gunstigen paavirkes og meget lettere tilhele under Brugen af directe locale Midler. Det er ogsaa en af flere Læger gjort Erfaring, at en spontan Suppuration af en Glandel eller en opstaaet suppurerende Furunkel ofte bevirker en velgjørende Derivation, hvorefter gamle Saar i Hovedet helbredes, som tidligere have modstaaet local Behandling. Meningerne om vedvarende Derivantia og navnlig Setaeer ere deelte, og medens Nogle tilskrive dem stor Virksomhed, ansee Andre dem næsten skadelige, hvorom en Discussion i det medicinske Akademie i Paris i forrige Aar vidner. Efter min egen Erfaring er jeg ogsaa mindre vel stemt for perpetuerende Derivation paa et og samme Sted, da Suppurationen bliver tilvant og som saadan endog ofte vanskelig at undvære og standse, derimod er jeg en Talsmand for mindre, begrændsede og omskiftende

Derivationssteder, og saadanne har jeg paa Børnehospitalet let opnaaet ved inden i smaae Been- eller Træringe, med Hul af $\frac{1}{2}$ —1 Tommes Diameter at anbringe en Charpie- eller Bomuldsbold med paasmurt Træksalve og det Hele befæstet ved lidt Heftplaster. Jeg har paa denne Maade brugt en Salve af Tart. stibiat. med Crotonolie $\frac{aa}{3i}$ til $3i$ Fedt og stærkere i flere Tilfælde, men jeg er langt bedre tilfreds med en Træksalve af Sublimat i Forhold af 1 til 5 Dele Salve, da dette sidste Middel virker hurtigere og ikke sætter saa let Ar. Inden 24 Timer har man en rund Epidermis-Blære med en overfladisk Nekrose af det underliggende Væv, og kan herefter forbinde disse Smaasaar med simpelt Cerat, og bestryge dem med lidt Lapis infern., eller lade dem om nogle Dage sætte Skorpe og derunder tilhele, da det er en Kjendsgjerning, at Exutorier hos Børn ofte meget hurtigt udtørre, naar de ikke forbindes med en Træksalve senere og paa den Maade gjøres chroniske, i Lighed med spontane invetererede Saarflader. Ere Børnene mindre vædskesunde, og er Huden omkring et saadant Exutorium meget tilbøielig til impetiginøse og eczematøse Udslag, ville saadanne vise sig, og alle disse bør man lade tilhele, inden nye Exutorier bruges, hvis man ikke vil anbringe dem paa lidt fjernere Steder; thi i saa Tilfælde vil den depurative Derivation heller befordre det skete Udslags Hentorren. Efterhaanden ville Exutorierne virke mindre livligt, fordi Huden bliver mindre modtagelig, hvorom man paa en begrændset Flade let kan overbevise sig. — Jeg har en Tid forsøgt Sennepskager og Sennepsolie som Trækmiddel, men jeg har fundet, at Hudsvulsten herved bliver større. Cantharidesalve eller Cantharidinolie har jeg ikke forsøgt paa denne Maade, fordi dette Middels Virkning paa Orga-

nismen kan være mindre god. Skjønt Sublimatsalve kan gøres stærkere og hurtigt virke dybere end i nysnævnte Forhold, troer jeg den angivne ganske hensigtsmæssig, og neppe vil der paa Grund af den hurtig fremkaldte Hudirritation skee nogen Absorption, eller den vil være af yderlig ringe Betydning, saameget mere som kun ganske lidt Salve behøves til en Rings Omkreds. Forøvrigt har jeg i disse Sygdomme intet imod, at en i Sammenligning med en almindelig anvendt Mercurbehandling yderst ringe Quantitet absorberes af Huden, da jeg heller antager den virksom i Forbindelse med den almene Behandling. Angaaende en varierende og stadig Derivation paa denne Maade har jeg ogsaa udtalt mig i det norske medicinske Selskab i en Discussion om Syphilisinoculationernes Virkemaade og senere i en egen Afhandling, til hvilken jeg skal tillade mig her at henvise (Norsk Magazin for Lægevidsk. XI Bd. 1857. S. 576).

Efter de i det Foregaaende fremsatte almindelige Bemærkninger skal jeg kortelig omtale enkelte af de i de 3de Aar behandlede localiserede Affectioner.

Ophthalmier.

Med Hensyn til de forskjellige Organers Abnormiteter i Børnealderen er neppe nogen Deel mere udsat og hyppigere angreben end Øiets forskjellige Partier, og de fleste af disse Affectioner, ligefra Barnets første Levedage til Puberteten, kunne ogsaa henføres under Betændelsernes Kategorie.

Ophthalmia (Blennorrhoea) neonatorum er ikke sjelden paa Fødselstiftelsen, hvorom de af mig angivne Beretninger give Oplysning. De paa Børnehospitalet forekomne faa Tilfælde ere dels komne directe fra Byen og dels overførte fra Fødselsanstalten paa Grund

af Ondets Varighed over den for Opholdet der bestemte Tid. Den nu i flere Aar brugte Behandling med jevnlige Indsprøitninger med koldt kogt Vand blandet med lidt Laudanum, en lille Knivspids Calomel i Øiet ved Svulst af Conjunctiva, repeteret efter Omstændighederne, samt Øienvand af Lapis infernalis (gr.i-gr.iv til 3j Vand), kolde Føtus, og Derivation bag Ørene med Crotonolie fører i de fleste Tilfælde til Maalet uden Skade for Øiet. I langvarige Tilfælde Omskiftning af locale Midler og Pensling udenpaa Øienlaagene med Iodtinctur*). Som Øienvand er ogsaa forsøgt det af *Hairion* og *Bonnewyn***) anbefalede Tannin gr.v i Aqu. dest. 3vi Mucilag. 3i med afvekslende Virkning; ligeledes Ol. terebinthinæ og Laudanum i Øiet, især som Eftercur. Indvendig digestionsstyrkende Midler, hvortil jeg nu med Fordeel sætter det fra England anbefalede Chinin med god Virkning. Ved Mistanke om syphilitisk Dyskrasie gives altid smaae Doser af en Opløsning af Kali hydroiodicum.

Conjunctivitis er, som noksom bekjendt, en særdeles hyppig Øienaffection paa skrophuløs Bund og meget ofte forbunden med ny Kardannelse paa Cornea, Vesikler og smaae Ulcerationer. Der er imidlertid en Særegenhed ved disse Betændelsers Opkomst hos Børn, som langt fra med samme Hyppighed finder Sted hos Vøxne, og denne bestaaer i, at et udvendigt Eczem ved sin skarpe Vædske forarsager og vedligeholder Betændelsen, som under dette Forhold viser sig med en intens Photophobie, Taareflod med Kløe og Brænden. Prof. *Düben* har fra Hospitalet i Stockholm med Rette gjort opmærksom paa dette Cau-

*) Cfr. Dr. *Soquet* i Gaz. des hôpit. 1854.

**) Annales d'oculistique T. 28 og Neue med.-chir. Zeit. Nr. 3, 1854.

salforhold, der gjør Affectionen yderst haardnakket, om just ikke saa farlig for Øiets Form.

Med Conjunctivit er meget almindeligt en Adenopathia palpebralis forbunden, og disse Blephariter med svulne Palpebralraude høre saavel som den svulne Overlæbe og sliinflydende Næsehulhed til de mere udtalte Phænomener i en skrophuløs Organisme. Ved Siden af den almene Behandling og jevnlige Derivantia i Nakken bruges af os strax locale Midler mod disse Betændelser. Udvendigt langs Øielaagene især ved Eczem virker Ungvent. hydrarg. citrinum, frisk tilberedt med Cacaosmør og Mandelolie og tyndt paasmurt et Par Gange daglig, meget godt mod den kløende Irritationstilstand, i Forbindelse med jevnlig Paastrygning af reen Mandelolie eller Flødesmør, senere tør jeg som Resolvens ogsaa anbefale til udvendig Pensling ved lukkede Øienlaag en extemporeret Blanding af Tinct. iodii og en Opløsning af Ferrum muriaticum, hvilket sidste Middel ogsaa af franske Læger*) er anvendt mod chroniske Ophthalmier. Mod den eczematøse Conjunctivit og den hermed forbundne Photophobie er flere Gange anvendt det af Prof. *Mauthner* i Wien tilraadte Coniin gr.3 i 3i Mandelolie**), hvoraf en Draabe dryppes i Øiet Morgen og Aften. Dette Middel er ogsaa anbefalet af Dr. *Abelin* efter Forsøg i Stockholms Barnhus***) og synes at fortjene Opmærksomhed. Ombytning af Midler er forresten, som noksom bekjendt, nødvendig, og ved haardnakkede Tilfælde er en flygtig Paastrygning

*) *Follin* i Archives générales

**) Istedetfor Olie kan ogsaa med Nytte Glycerin bruges, da dette Stof, naar det er reent, er saa mildt, at ingen Irritation herefter opstaaer.

***) Hygiea Nr. 10, 1855.

af Lapis infernalis i og udenom Oiet af god Virkning, hvorhos Irritationen bør formildes ved samtidig Pensling med fin Olie.

I Sammenhæng med disse Blepharoadeniter og Conjunctiviter har man i den seneste Tid fæstet en særlig Opmærksomhed ved det chroniske Sliimflod af Næsen (Næsekatarrh) og med Fordeel for Øienaffectionen samtidig behandlet denne med locale Midler. Prof. *Düben* har efter tyske Læger optaget denne Behandling og roser den meget. Opmuntret herved har jeg ligeledes forsøgt den og med en Pensel indbragt i Næsen Blandinger af Iod, svovlsuurt Jern, Opiumstinctur og Lapis infernalis i Opløsning afvekslende, med tilsyneladende god Virkning, uden at jeg derfor tør paastaae, at Affectionen i Oiet for nogen væsentlig Deel afhænger af en chronisk Betændelse Næsens Sliimhinde.

Keratitis er ingen sjelden Affection af Børns Øine, da Karudviklingen under en Conjunctivit og Skleroticit meget let fortsætter sig ind paa Cornea enten i Form af enkelte Karstriber med Ulceration og Afsætning mellem Lamellerne, eller Betændelsen bliver mere udbredt over hele Cornea og medfører en jevn Fordunkling. Det er en af Lægerne i Børnehospitaler ofte gjort Erfaring, at en udtalt og chronisk Keratit hører saavel til de betænelige som yderst haardnakkede Øienbetændelser, og at den saare let recidiverer, efterat den er bragt paa en god Bedrings Vei.

Som et mere selvstændigt Casus af denne Betændelse skal jeg lidt detailleret omtale dens Phænomener og Gang hos en 5aarig Dreng, født af Forældre af Arbeidsclassen, der levede i en lav, mørk og fugtig Bolig. Han indkom paa Hospitalet 7de September 1855, 6 Uger efter Ondets Begyndelse med brændende og stikkende Smerter i det

ene Øie, Lyssky og Taareflod, senere angrebes det andet Øie og ved Indkomsten paa Hospitalet saaes Cornea paa begge Øine fordunklet, af jevn graalighvid Farve med en guul Plet i Centrum paa venstre Øie, hvilken syntes opstaaet ved et Exsudat i Substantien. Den hvælvede Form af Hornhinderne var ikke forandret, men Overfladen var ligesom stovbesløret. Ingen synbar Karudvikling i Lammellerne, men omkring Indfældningen i Sklerotica saaes en Krands af større og mindre injicerede Vasa. Photophobie og Lacrymation i høi Grad. Paa lidt Svulst nær i Næsevinger og Overlæbe og et Par smaae Kjertelhævelser omkring Glandulæ submaxillares var Habitus ikke videre skrophuløs. Ingen Feber. I Sygdommens Forløb forbedredes og forværredes Tilstanden flere Gange, hvorhos Betændelsen fra Basis af Cornea ogsaa forplantede sig til Iris. Pupillen paa venstre Øie var en kort Tid ubevægelig ved fine Filamenter, der dog efterhaanden bragtes til Bristning ved Inddrypning af en Opløsning af Atropini sulphurici gr.β til 3ii Vand een til to Gange daglig. Han laae paa Hospitalet omtrent 1 Aar og udgik fuldkommen helbredet, har senere været frisk, uden Fordunkling af Hornhinderne og med godt Syn.

Behandlingen var baade almeen og local. Pulvis alterans (Calomel og Sulphur. aurat. antim. aa gr.¼) i nogen Tid, Decoctum sarsaparillæ, Solut. kali hydroiodici, bitter Thee, Tran, Ol. terebinthinæ, Tinct. ferri muriat., afvekslende til indvendigt Brug; og forskjellige locale Midler i og om Øinene, s. s. Sublimat, Glycerin alene og med Conium og Iod, Opiumstinctur, Zinkvand, Calomel, Alun o. fl., foruden Derivantia i Nakken, Ungv. neapol. med Extr. opii om Øiet og kolde Omslag paa samme under de periodiske Forværrelser, naar ingen locale Midler taaltes.

Iritis med Hypopion er kun i et Par Tilfælde kommen under Behandling, men ikke isoleret. Foruden den for de complicerede Betændelser passende Behandling, der i det Hele ovenfor er omtalt, have vi i Atropinens locale Anvendelse nogle Gange daglig ogsaa søgt en Indvirkning paa de trophiske Forholde og ikke alene tilsigtet en Udvidelse af Pupillen til Forebyggelse af Filamenters Dannelse. Tilfældene ere helbredede.

Arthrokacer

uden og med Caries ere forekomne i Fod, Knæ, Hofte, Haand, Albue og Rygrad. I et enkelt Tilfælde vare flere Lede angrebne med Caries og Svulst af Periosteum og Epiphyserne — en *Dyscrasia cariosa*. Hos et Par Andre suppurerede Albuen og Haanden rigeligt og Betændelsen af Epiphyser, Been og Periosteum var saa smertelig og stærk, at det saae ud til, at Patienterne skulde ligge under formedelst en indtrædende Infectionsfeber. Vedholdende Brug af Chinin med god, men let Diæt (Melk, Æggeblomme, Viin) samt locale resolverende Omslag med iblandet Kulpulver mod den ondartede Suppuration fulgtes af et gunstigt Udfald. Opdrivningen af Been og Beenhinde bliver efterhaanden chronisk, usmertelig og taber sig under en passende Almeenbehandling (Tran med Jern, Iod og bittre Midler) i Forbindelse med sund Føde efter længere Tids Forløb, selv under Former, der hos Voxne vilde kræve Amputation. Paa Grund af den lange Tid flere af disse Affectioner medtage, maa det for den Commune, der indlægger de fleste Patienter af denne Art, være magtpaaliggende at sørge for et Locale, i hvilke de reconvalescerende Børn kunne under Lægeopsyn fysisk godt pleies, thi uden dette vil en heldig begyndt Behandling ikke føre til Maalet. Dette gjælder især om Affectioner af Rygraden med paafølgende Deviationer, og Fatigvæsenets Bestyrelse er, som anført, ogsaa af mig herpaa gjort opmærksom ved enkelte Børns Udskrivelse af Hospitalet.

Kyphose med og uden paatagelig Emollition af Rygraden og Costæ er den Deviationsproces, der fortrinsviis har viist sig saavel hos de Børn, der ere opstillede som lidende af Spondylarthrokace som hos Andre,

hvor Sygdom af anden Natur har bragt dem paa Hospitalet.

Et Tilfælde endte dødeligt efter blot 12 Dages Ophold i Hospitalet. Patienten, en 4aarig Dreng havde været sygelig fra $1\frac{1}{2}$ Aars Alderen og klaget over Mathed og besværlig Bevægelse. Et Aar senere begyndte Rygraden at rage frem, hvilket efterhaanden tiltog i den Grad, at ved Indkomsten var Rygstøtten vinkelformig bøiet ud fra 9de Vertebra dorsi ned til 3die—4de Vertebra lumb., saaledes at 12te Vertebra dorsi dannede Toppunktet. Bevægelserne tabte sig efterhaanden og et Par Uger før Indlæggelsen havde han efter Beskrivelsen havt et Anfald af Bevidsthedsløshed med paafølgende Lamhed af Muskulaturen paa Ansigtets venstre Side, hvilken igjen begyndte at tabe sig, da et eclamptisk Anfald med Trækninger i venstre Side indfandt sig, hvorefter Patienten førtes til Hospitalet. Han kom under Opholdet til fuld Bevidsthed, men var somnulent og taus, klagede undertiden over Smerter i Hovedet, men uden Skrig eller Uroe. Pulsen varierede fra 88 til 100. Til Trods for gjentagende Superfusioner med koldt Vand og stærk Afledning saavel directe paa Hovedet som paa Extremiteterne, en enkelt Dosis Calomel med Jalap, Moschus o. s. v., indfandt sig heftige epileptiske Anfald, og Død under Sopor. Obductionen blev negtet.

Mangel paa en passende Behandling i Begyndelsen har vistnok i dette Tilfælde fremført en combineret Tilstand af Spinitis med Meningit og maaskee Myelit samt heraf følgende Exsudation eller Emollition.

I et andet Tilfælde af Kyphose med Paraplegie og formeentlig Suppuration i Benene indtraadte en Infectionstilstand, som helbrededes. *Bouvier* i Paris har ogsaa observeret Resorption og Helbredelse ved Abcesser ifølge Caries i Vertebrae og fraraader at aabne dem. (*L'Union méd.* Nr. 144, 1856.)

Coxarthrokace (*Coxalgia spontanea infantum*)

er en af Børnealderens store Onder, hvilket man med mere eller mindre Grund ligeledes har sat paa et skro-

phuløst Fundament. Den snigende Maade, hvorpaa Sygdommen opstaaer, er vel Aarsag i, at mange Børn blive vanføre paa Grund af Anchylose og en paafølgende atrophisk Tilstand i Benet. Det bør derfor være en Regel for Lægen, naar et Barn begynder at ømme sig eller halte under Gangen, eller klager over Smerte i Hofte og Knæ, strax at undersøge, om der virkelig er en inflammatorisk Tilstand i det indre Hofteled (*Ligamentum teres*), hvilket ret godt aabenbarer sig ved Smerten af at anbringe smaae Stød paa Fod, Knæ eller Hofte; thi Bevægelse af Benet alene er vildledende og den relative Korthed ligesaa, da den ofte mangler og altid tilhører en Opdragning af Bækkenet. Er Diagnosen sikker og Hinkningen ikke en overgaaende neuralgisk Reflexaffection, hvilket hos Børn hændes, vil det være nødvendigt strax at ty til locale Midler, iblandt hvilke Iglar og Cauterier altid have spillet den største Rolle. Jeg vil gjerne med flere nyere Børnelæger i Begyndelsen anbefale kold Douche nogle Gange daglig, og dernæst som et localt Middel, der i Længden kan bruges, Paastrygning af en Blanding af *Tinct. iodii* og *Solut. ferri muriat.*, hvoraf jeg saavel i denne, som i andre chroniske Arthrokacer har seet en god Virkning. Ved tidlig Behandling kan Curen gaae let. Paa en lille Patient, der var i høi Grad angreben ved Indkomsten og endnu ligger paa Hospitalet, har jeg med Fordeel anvendt de gjentagne smaae Exutorier ved Sublimatsalve. Naar Betændelsen taber sig, vil det -beroe paa Concretionerne indvendig i Ledet, hvorvidt Bevægelsen bliver ganske frie. En Prøve under en Chloroformruus vil være den paalideligste, naar Patienten ikke vil uden Klage tillade, at Benet rettes.

Meningitis tuberculosa (granulosa).

Med denne Benævnelse har man i den senere Tid betegnet den fra saamange Beskrivelser vel bekjendte Sygdomsform „Hydrocephalus aëtus“ til Forskjel fra den saakaldte simple Meningit eller Encephalit, der ikke hviler paa nogen særegen Diathese eller, som anatomisk Element, er forbunden med samtidig Udvikling af granulose (miliær-tuberkulose) Legemer i Hjernebinderne. Diagnosen af denne Sygdom har til alle Tider været en meget omhandlet Gjenstand, fordi Sygdommen alene i dens første Begyndelse har været anseet for helbredelig; men da Phænomenernes store Foranderlighed og remitterende eller endog intermitterende Charakter under et undertiden langvarigt Prodromalstadium lettelig maatte hos Barnet give Anledning til Uvished og Forvexling, er det let forklarligt, at Sygdommen i sin Oprindelse ofte er bleven behandlet paa en anden Maade, end rimeligviis Tilfældet vilde været under en sikkrere Diagnose. Hvor Ondet optræder mere pludseligt hos tilsyneladende sunde Børn, er Erkjendelsen af det tuberkulose Element vistnok ofte umulig, men Phænomenerne fra Hovedets Side ville dog i Regelen være paatagelige, forsaavidt ikke en Betændelse i andre Organer, navnlig Brystets, der ofte i Begyndelsen ere forbundne med Hjernesymptomer ifølge den samtidige Febertilstand, maatte gjøre Diagnosen af en Hjernesygdom som primær Affection tvivlsom. Enkelte af de, som mere pathognomiske, angivne Tegn, s. s. Brækning, træg Afføring, Skrig, Retraction af Hovedet o. fl. kunne ogsaa mangle eller være lidet prominente. Navnlig kan det hænde, at Diarrhoe gaaer forud i den tuberkulose Meningit, medens Obstruction af Alvus er mere constant i den simple Meningit, hvorpaa jeg har havt flere Exempler,

iblandt hvilke jeg kan henvise til nogle ret mærkelige Tilfælde, der af mig ere publicerede i 1ste Hefte 1847 af Norsk Magazin for Lægevidenskaben og hvor Obductionen klart viste Sygdommens Natur. Naar man med Hensyn til Sygdommens Helbredelighed har afgivet den Dom, at den ikke er helbredet, hvor Diagnosen er sikker, er dette maaskee altfor sandt, forsaavidt den, efterat have naaet en fuld Udvikling, næsten bestandig ender dødeligt, men besynderligt maa det synes, at dette nærmest skulde være begrundet i den locale Afsætning af saa smaae Legemer, som de, hvorom her er Tale, og dette saameget mere, som de ofte findes i Hjernebinderne i saa yderst ringe Mængde, at ikke deres Tilstedeværelse som local Complication kan forklare Prognosens Daarlighed i Sammenligning med den langt gunstigere, som kan stilles, om Meningiten ikke er tuberkuløs. Hovedsagen er vel saaledes Diathesen, hvis Aabenbarelse gjerne viser sig samtidigt i andre Organer, og Betændelsen, Udsvedningen eller, om saadan ikke findes, Emollitionen af Hjernemassen ere localiserede Udtryk af en med Betændelse forbunden pervers Nutritionsproces. Anskuet paa denne Maade vil det ogsaa være fuldkommen berettiget, at man ved Siden af en moderat Antiphlogose, indleder en Behandling, der særligt har Opholdelsen af de vitale og organiske Livsprocesser for Øie, for at ikke den irritable og lidet energiske Barneorganisme skal svækkes udover Grændserne for en til Opholdelse og Cur nødvendig Ernæringsevne, en Anskuelse, som ogsaa for andre acute Sygdomme har gjort sig mere gjældende i den senere Tid, end forhen var Tilfældet. Af de Børnesygdomme, med hvilke Forvexling i Prodromstadiet af Hydrocephalus acutus har været anset meget vanskelig at undgaac, er den saakaldte Or-

mefeber særskilt opstillet af ældre Forfattere med Angivelse af flere i fine Nuancer gaaende distinctive Tegn. Dr. Gölis fandt det endog nødvendigt for at undgaae Vildfarelse, at Lægen bar hos sig en parallel Fortegnelse over de begge Sygdomme tilhørende Phænomener. Uden at turde benegte, hvad flere Læger gjøre, at Helminthiasis i Barnealderen kan frembringe Symptomer af en acut febrilsk Charakter, der vistnok kunne komme til at ligne de første vage Tegn til en Meningitis tuberculosa, er jeg dog af den Mening, at man har overdrevet Betydningen af Orm, hvoraf saamange Børn lide uden videre Ulempe af acut Natur, og for det Visse troer jeg ikke, at den karakteristiske variable febrilske Tilstand med dens ledsagende Phænomener fra Hovedets og Innervationens Side egentlig tilhører Orm, skjønt det maaskee kan være saa, at Orm kunne complicere og tildeels cachere Symptomerne. Ogsaa er det min Tanke, at en begyndende Hjerneaffection ikke sjelden er bekjæmpet ved Anvendelse af flere af de saakaldte Ormemidler, især naar de virke afledende og til samme Tid styrkende paa Organismen. Det er heller ikke vanskeligt at have et dobbelt Hensyn under Therapien af disse Sygdomme i Begyndelsen, og naar til Ex. Chinin i den seneste Tid anbefales som et fortrinligt Ormemiddel, er det let at enes om dets Anvendelse, da det efter mangfoldig Erfaring nedstemmer Karvirkksomheden, medens det styrker Vitaliteten. Det samme gjælder ogsaa andre Ormesager, der kunde virke afførende og roborerende paa Tarakanalens Slimhinde. Mercur i enkelte Doser opfylder ligeledes et dobbelt Med.

Af den tuberkuløse Meningit ere 3 Tilfælde forekomme paa Børnehospitalet i Løbet af de 3 Aar, denne Beretning nærmest omfatter. Da de tvende første Pati-

enter med Hensyn til Sygdommens Begyndelse og Gang vare meget forskellige og af Interesse i flere Henseender, skal jeg kortelig gjengive Journalerne:

Caroline J., 3½ Aar gl., uægte Barn, født af sunde Forældre indkom 22de Februar 1856 paa Hospitalet, fulgt af Moderen, hos hvem Barnet altid har været, først paa Landet og senere i Byen. For 5 Uger siden begyndte hun at sygne under Feberphænomener og har senere været i variabelt Lune, uroligt om Natten, stedse klagende over Smerte i Panden, Tørst, Appetitmangel, træg Afføring uden Udspænding af Underlivet, Ulyst til at gaae eller staae, hvormed forbandt sig en stadig Afinagring. Et Par Dage før Indkomsten begyndte en krampagtig Tilstand med stive fortrukne Øine og Trækninger om Munden og korte Skrig uden Tab af Bevidsthed at indfinde sig med lange Mellemrum. Disse Anfald fulgtes ikke af Sopor, men Matheden mærkedes stærkere og Barnet vilde bestandig bære Hovedet mod Moderens Bryst. Desuden klagede hun i de senere Dage over Smerter i Nakken, uden at nogen Ømhed ved Tryk var paaviselig. Barnet saae ved Indtagelsen blegt ud, Pupillerne ikke contraheerede og nogenlunde bevægelige, Tungen var rød og pletviis belagt. Magerheden betydelig. Puls 120. I Sygdommens Forløb under den første Maaned syntes Tilstanden at forværres, idet hun enten laae med stivt Blik, næsten ubevægelig Pupille og stærk tilbagetrukket Hoved, gribende automatisk til Ansigtet, i hvilket smaae krampagtige Bevægelser vare mærkelige, eller ogsaa var uroligt, især om Natten, med gjentagende Skrig. Brækning var hyppig og uvilkaarlig Afgang af Urinen af og til tilstede. Pulsen varierede mellem 130 og 116 Slag i Minutet, indtil den i Reconvalescensen gik ned til 96 og 80, dels i vaagen, dels i sovende Tilstand. Under Søvn blev den irregulær med ulige Mellemrum, medens den under Sygdommens Heflighed ikke viste denne Egenskab.

Behandlingen bestod i diætetisk Henseende af kogt Melk med Riissuppe daglig, et Par pidskede Æggeblommer med Sukker og lidt Viin, tynd Kalvekjødsuppe, samt senere lidt Viin med Vand, hvilke Næringsmidler bødes i smaae Portioner saa ofte som Barnet vilde modtage dem. Den medicinske Behandling bestod dels i Anvendelse af locale omstemmende og antiphlogistiske Midler, s. s. kolde Superfusioner, anvendte med lange Mellemrum nogle Gange

dagligt og forsigtigt, indtil Hovedet blev koldt, hvilke paa Grund af Barnets Modvillie senere ombyttedes med Isblære, brugt $\frac{1}{2}$ — $\frac{3}{4}$ Time af Gangen med flere Timers Mellemrum; Indgnidning paa Hovedet med en Salve af Kali hydroiodiei (3i-3i), 3 Gange daglig, og sinapiserede hede Vandomslag om Benene flere Gange daglig, (Iglar anvendtes ikke); deels i indvendige, resolverende, roborerende og beroligende Midler, iblandt hvilke jeg eursorisk skal nævne: en enkelt Dosis Calomel med Jalap (aa gr.iii). Chinin gr.i hver 3die til 4de Time i Begyndelsen, Moschus, Cynoglospulver gr.i, hvortil under Uroen ogsaa sattes om Aftenen Morphin i Opløsning i Dosis af $\frac{1}{50}$ til $\frac{1}{20}$ Gran, senere nogle Jerndraaber (Ferrum muriat.), Tran, *Bremser*s Ormesaft, og smaae Lavementer til at beholde af Hb. absynthii med Asa foetida; nogen Afgang af Orm paafulgte. Efter en Maanedes Behandling begyndte hun at bedres, Brækningerne bleve borte, den omvexlende apathiske og urolige Tilstand gik under nogen Afvexling over til en mere rolig Søvn og en tydeligere intelligent og derhos mildere Sindsstemning, Appetitten blev bedre, Tungen reen og efter en Convalescents af nogle Uger udgik hun fuldkommen rask og ved godt Huld den 3die Mai, eller 3 Maaneder efter Indtagelsen.

Angaaende Diagnosen af dette Tilfælde synes mig ikke, at der kan være nogen begrundet Tvivl, hvorvel de særegne smaae krampagtige Anfald uden Tab af Bevidsthed kunde tyde hen paa en begyndende Hypertrophia cerebri; men herfor taler dog hverken den foregaaende Tilstand, eller Udviklingen af det næsten 4aarige Barns Organisme med normal Form af Hovedet og til vanlig Tid lukkede Fontaneller, ligesom den hurtige Afmagring ogsaa nærmest tilhører Tuberkulosen. Om Ormesygdom eller typhoid Feber kan der endnu mindre være Tale, navnlig manglede de sædvanlige Tegn paa den sidste Sygdom, forsaavidt de aabenbare sig gennem Blodblandings Effect paa Hjernen og Localisationen til Underlivet (Tarne og Milt o. s. v.) Derimod er det af Hovedets toniske Retraction og den mellemløbende kramp-

agtige Tilstand meget rimeligt, at Betændelsen i dette Tilfælde har naaet ned til Basis cerebri og til Medulla spinalis, da en Meningitis spinalis fortrinsviis skal ledsages af Stivhed i Musklerne og Convulsioner*).

Vedkommende Behandlingen har jeg lidet at tilføie, da det af Sygehistorien fremgaaer, at jeg lægger en væsentlig Betydning i Bekjæmpelsen af det dyskrasiske Element ved Siden af en moderat Antiphlogose, hvortil jeg ogsaa regner Anvendelsen af sederende Midler. Narcotica ere ogsaa af flere Børnelæger i den senere Tid vurderede høit efter Blodudtømmelser**), fordi de bevirke Roe og, som det synes, tillige indvirke paa Capillærcirculationen som et Resolvens; at Dosis bør — især i Begyndelsen — være liden, og vel afpasset efter Alderen, er en Selvfølge. Jeg foretrækker Morphin, hvor jeg vil være sikker paa Dosis, da Opium er saa forskjelligt i Styrke, men Andre bruge uden Betænkning Dovers Pulver. Under Brugen af koldt Vand eller Is paa Hovedet hos Børn, som jeg ogsaa ofte har brugt i privat Praxis, hvor jeg frygtede secundære Congestioner, følger jeg stadig en Regel, som jeg for mange Aar siden har lært og funden god, nemlig aldrig at bruge Omslag vedholdende i flere Timer, for ikke derved formeget at deprimere Vitaliteten, som for Barnet er af saa stor Vigtighed. Efter en jevnlig Omskiften i Løbet af $\frac{1}{2}$ —1 Time gives derfor flere Timers Mellemrum.

En lille Bemærkning har jeg at gjøre med Hensyn til Pulsen i Barnealderen, som jeg ikke erindrer at have

*) Cfr. Rückenmarks-Krankheiten af Dr. *Bierbaum* i Journal für Kinderkr. Nr. 5 og 6, 1856).

**) I Medicin. Zeit. Ruslands anbefaler Dr. *Kruttge* Opium hos Børn ogsaa i Meningit (Neue med.-chir. Zeit., 10 Juni 1854.)

seet hos Forfattere og det er, at Pulsen hos sovende og sunde Born meget ofte er af irregulær Rhythmus, medens den bliver regelmæssig i vaagen Tilstand, saavel som i Søvn, hvis der er nogen Incitation tilstede. Denne Iagttagelse har jeg gjort saa hyppig baade paa egne og Andres Born, at jeg hos et friskt Barn anseer den som et normalt Phænomen tilhørende Barnets særegne uregelmæssige Innervation, naar Hjernenerven ikke ere i stadig Virksomhed som en regulerende Kraft. I vaagen Tilstand faaer dette Phænomen en heel anden Betydning.

Det andet Tilfælde af „tuberkuløs Meningit“ var af en ganske anden Gang og vil være af Interesse for den praktiske Læge:

Otto W., 11 Maaneder gammel, indkom paa Hospitalet 28de Juli 1855 fulgt af sin Moder for at behandles for medfødt Varus paa begge Fødder. Han havde i samme Foraar lidt af Kighoste, der endnu i ringe Grad vedvarede, men iøvrigt var han rask og af temmelig godt Udseende med udviklet rhachitisk Hoveddannelse og af oprakt Intelligents for sin Alder. Orthopædisk Behandling med Bandage af Pap og Vat anvendtes, og med Undtagelse af lidt Diarrhoe og Brækning under Frembrud af nogle Tænder befandt han sig i det Hele vel, indtil i Midten af November, da han igjen fik Brækning og Diarrhoe med Uro og Vrantenhed under samtidige Tegn til et nyt Tandudbrud. Puls 80, regelmæssig. Den 18de November henfaldt han uden andre Phænomener i en døsig Tilstand og var aldeles udeeltagende for Tiltale og Kjærtegn endog af Moderen, derimod yttrede han nogen Uro, naar man trykkede de svulne Steder af Gingiva, som formeentlig svarede til de kommende Tænder. Denne følesløse Tilstand vedvarede i de paafølgende Dage paa den særegne Maade, at han laa stille med stive og aabne Øjne uden Trækninger eller mærkelig Indvirkning af Lyset paa Pupillerne, der vare udvidede. Pulsen var i de første Dage 80 og uregelmæssig med ulige Intervaller, senere blev den hurtigere, 120. Ansigtstudtrykket var roligt og blegt med en flygtig intereurrent Rødme. Tilsidst indfandt sig Strabismus, smaa Rykninger i Armene med stadigt

indadboiede Fingre, iøvrigt den samme stirrende rolige Tilstand og den 25de November døde han stille.

Behandlingen bestod i en Dosis Calomel med Jalap, som virkede svagt; Træksalve (Tart. emet. Æi , Kali hydroiod. 3i , Axung. 3vi), og Isblære paa Hovedet, sinapiserede Fodbade og indvendigt desuden Chinin med lidt Morphin, saavidt han vilde modtage og svælge, hvad man indførte i Munden.

Ved Obductionen fandtes Hjernen comprimeret med fladtrykte Gyri og Ventriklernes udspændte af en meget betydelig Mængde klart Serum. Hjernehinderne vare normale med Hensyn-til Tykkelse, ubetydelig Karinjection. Paa deres øverste Flade kunde ingen tuberkuløse Granulationer opdages, men paa Basis saaes mellem Arachnoida og Pia mater en Deel spredte miliære Tuberkler af graaagtig Farve og temmelig haard Consistents. Disse Granulationer vare meest udviklede om Nervernes Rødder og Blodkarrene, og ellers spredte over en større Flade. De øvrige Caviteter tillodes det ikke at aabne.

Dette Tilfælde hører nærmest til det Slags Hydrocephalus, som godt kan passe under den tidligere Benævnelse „Apoplexia serosa,“ og dog var her ogsaa et Grundonde tilstede, som nu visselig med Rette ansees for at staae i en bestemt causal Forbindelse med Udsvedningen, skjønt den anatomiske locale Abnormitet (Granulationerne) er ubetydelig i Forhold til dens formeentlig dødelige Virkning. Uden en meget nøiagtig Undersøgelse ville ogsaa de smaae Tuberkler let undgaae Opmærksomheden og saaledes var det næsten gaaet os i dette Tilfælde, da det store Partie af Hjernehinderne, som bedækkede Hjernen opad og til Siderne var ganske frit for Afsætning endog ved gennemfaldende Lys.

Foruden disse tvende Tilfælde have vi paa Bornehospitalet behandlet et 3die udtalt Casus af en tuberkuløs Meningit, der ogsaa godt kunde lignedes ved en Ornefeber efter en ældre Anskuelse, men som for mig ikke lod det tvivlsomt, at Hjernen var den afficerede Deel. Det hel-

brededes under en lignende Behandling af den, der er omtalt ved det første Tilfælde.

Atrophie (Kakotrophie, Dystrophie).

Under disse temmelig ubestemte Benævnelser see vi i Sygdomstabeller fra Børnehospitalerne Tilstande opstillede, om hvis tuberkuløse eller skrophuløse Natur der vel kan være Mistanke, men om hvis localiserede Beskaffenhed man ikke kan komme til en nøiagtig Kundskab. Hovedphænomenet er, at Organismen vantrives, og Behandlingen maa saaledes søge at støtte Ernæringen paa enhver hensigtsmæssig Maade. Foruden den diætetiske Behandling har man i den senere Tid bragt i Anvendelse nogle Midler, som jeg skal nævne, da vi ogsaa leilighedsviis have forsøgt nogle af dem:

Det af Prof. *Mauthner* i Wien anbefalede „Extractum sanguinis bovini“ har jeg ladet flere Børn bruge nogle Gange daglig, uden at jeg af mine Forsøg drister mig til om samme at udtale nogen Dom. Saameget kan man altid slutte sig til, at nogle af Blodets nærmere Bestanddele maaskee lettere erstattes paa denne Maade end ved andre mindre let fordøielige Medicamenter af det Slags, der nærmest henhøre under Kategorien af nutrimentiv Medication.

I den seneste Tid har Dr. *Corvisart* i Paris*) anbefalet et Digestionsmiddel, som han har benævnt „Poudre nutritive“ (Pepsine acidifiée). Det er et Præparat af Dyrnavens indvendige Hinde, hvoraf kan beredes flere Slags, af hvilke et enkelt er tilsat Strychnin

*) Bullet. gén. de thérapeutique, Oct. 1854, og Encyclographie des sciences médic., Dec. 1854.

paa Grund af dette Medicaments roborerende Virkning for Maven og Fordøielsesprocessen. Da dette Præparat er bleven rost af gode Autoriteter, havde jeg Lyst til at forsøge dets Virkning, men ønskede helst at benytte et i Paris tilberedt Præparat, hvilket jeg endnu ikke har haft Anledning til. Som Surrogat har jeg derfor i et Tilfælde af en tilsyneladende reen Atrophie hos et ældre Pigebarn, hvor Appetiten var god, og Afføringen heller ikke uregelmæssig, men formeentlig Alimenterne ikke bleve behørigt bearbejdede, givet en Blanding af fortyndet Salthsyre med lidt Strychnin (gr. $\frac{1}{25}$) strax foran Maaltiderne og desuden nogle Doser af Aqva amygdalarum amar. (10—30 Draaber) daglig, for at imødegaae en tilstedeværende Sensibilitet, istedetfor Morphin som *Corvisart* hertil bruger. Virkningen syntes i Virkeligheden at være god og Barnet vandt i Huld og Sundhed.

Det af Dr. *Taylor**) i London roste Protein, gr.ii til gr.v i Sukkervand, og et andet Præparat det af Dr. *Mouries***) i Paris indførte „Proteinephosphato-calcique,“ som især skal være godt til at støtte Alimentationen, hvor Been-systemet lider, og gives i Form af smaae Gryn til Suppe, har jeg ikke kunnet forsøge, da saadanne Sager maatte bestilles fra Udlandet.

Blandt Affectioner af mere acut Natur, der ikke kunne betragtes som Ernæringssygdomme i almindelig pathologisk Forstand, skal jeg i det Følgende omtale enkelte af de paa Hospitalet indkomne Tilfælde.

*) Lancet. Hygiea Nr. 2, 1855.

**) L'Union médic. Nr. 93, 1854.

Pneumonie, Pleuropneumonie, Bronchitis.

Af de Bidrag til en klarere Anskuelse af de abnorme Forandringer i Legemet, som den anatomiske Undersøgelse, sat i Forbindelse med Phænomenerne i Sygdommenes Forløb, har givet os, har Lungernes og Bronchialtræets Nosologie ikke mindst profiteret. Læren om en Bronchialbetændelse, der successive forplanter sig nedad til de finere Grene og kan ende med en capillær og vesiculær Betændelse (*Pneumonia catarrhalis*, *Bronchitis capillaris & vesicularis*) har især for Barnelungen en forholdsviis stor Betydning, fordi den paa Grund af Rørenes og Blærerens mindre Volum og finere Struetur meget lettere fremfører en Obstruction, der ikke lader sig overvinde ved de derved foranledigede Hosteparoxysmer, og fordi Hæmatosen samt Vitaliteten hurtigere lide og ligge under end i den voxne Organisme. En Inflammation, der opstaaer paa denne Maade, viser ogsaa en anden Række af anatomiske Forandringer efter Døden, end den intercellulære (substantielle) Pneumonie, med hvilken ogsaa Pleurit i større eller mindre Udstrækning ofte forbindes sig. Exsudationen gaaer nemlig i den bronchitiske eller katarrhalske Pneumonie fra den indvendige Celleflade udad og danner i sin Begrænsning til Vævet en enkelt Lobulus den saakaldte lobulære Form, mellemens den Betændelse, der strax angriber det intercellulære Væv og medfører Exsudat i samme, comprimerer Cellerne og forplanter sig ind i samme og Bronchiernes fine Rør, at den antager en større Udbredning udover en heel Lungelap og derfor, i Lighed med den hos den mere udviklede Organisme hyppigen forekommende Form, med Rette benævnes som lobær Pneumonie. At meget ofte den lobære Pneumonie er forbunden med en Inflammation

af Pleura er en nu vel kjendt Sag, og Exsudationen kan, om den ligger udenom Pleura, forlede til at antage en Hepatisation i heiere Grad, end der virkelig er tilstede, om man ikke nøie constaterer Luftens Indtrængning i de finere Rør ved et forstærket Aandedræt. Forøvrigt finder en exsudativ Pleuritis med forholdsvis ringe Affection af det tilgrændsende Lungevæv ikke sjelden Sted hos Børn og er i den senere Tid oftere behandlet med Paracenthese af Brystkassen. — Med Hensyn til Hyppigheden af begge Former i Barnealderen, synes det utvivlsomt, at *Trousseau* og andre Forfattere have Ret, naar de fortrinsvis henføre den katarrhale Pneumonie til den tidligere Barnealder. Først efter 3—5 Aars Alderen bliver den lobære Form fremtrædende, og hyppigere i Forhold som Barnet nærmer sig Puberteten. I dette Tidsskrifts 6te Bind, S. 253 o. fl. har jeg givet et kortfattet Uddrag af disse Affectioners Phænomener og relative Betydning, til hvilket jeg skal tillade mig at henvise. — Angaaende Behandlingen vil det for enhver Læge, der har fulgt Udviklingen af denne Green af Pathologien være vel bekjendt, at man nu i det Hele mere og mere har forladt den directe antiphlogistiske Methode, og at man især for Barnealderen har givet Hensynet til Vitaliteten en stor Vægt. Imidlertid anbefales dog endnu Blodladninger i den lobære Form af Pneumonien af flere Læger, medens nok næsten Alle ere enige i at anbefale stor Forsigtighed med dette Middel i den bronchitiske. Enkelte Børnelæger banlyse endog de fleste af vore kjendte antiphlogistiske Midler i enhver Pneumonie. Saaledes siger *Luzinsky**), at han nærmest holder sig til Nitrum, Aqva laurocerasi

*) Wiener-Wochenschr. p. a. St. S. 88.

og Opium, og aldrig anvender Aareladning, Igler, Kopper eller Fluor som unødige og ofte skadelige hos Børn. Selv har jeg i en længere Aarrække næsten ganske forladt den directe Antiphlogose, hvorimod jeg søger Hjælpen i lette Emetica — især i den bronchitiske Pneumonie, — og antispasmodisk-narkotiske Medicamenter indvendigt i Forbindelse med lette roborerende Midler og en let nærende Diæt. Aqua amygdalarum, Morphin, Hyoscyamus, Opium (Cynoglosspillemasse), Mosehus og Chinin i forskellige Former med og uden Ipecacuanha indvendigt; og udvendigt Vand- og Olieomslag rundt Brystet, samt til Derivation flere Gange daglig repeterede varme Fodbad eller sinapiserede Vandomslag om Benene. Om nødvendigt kan ogsaa lidt Æther indvendigt bruges ved svag Vitalitet, ligesom Terpenthinolie blandet med anden Olie udvendigt som Omslag for og bag Brystet virker meget godt, naar den første Heftighed af Sygdommen er brudt. Chloroformindånding i gjentagne Doser med Mellemrum er vanskelig at anvende hos Børn, da de ikke selv kunne forstaae Virkningen og saaledes heller ikke selv give Lægen nogen paalidelig Veiledning. Iblandt de Midler, der virke godt i Bronchitis, vil jeg heller ikke undlade at nævne Kaffeinfus theskeeviis eller spiseskeeviis, da dette Middel tillavet med lidt Sukker og Fløde virker baade sederende, demulcerende og lidt inciterende.

Emphysema pulmonum & Apneumatosi.

Af denne combinede Affection, der ganske ofte er en Følge af den bronchitiske Pneumonie, og hvorpaa vi ogsaa paa vort Hospital have seet Tilfælde af acut Art, skal jeg tillade mig at anføre et Casus af chronisk Natur,

da Diagnosen under denne Form er vanskeligere og ofte tvivlsom.

Tilfældet angaaer et Pigebarn, 20 Maaneder gammelt, som indlagdes paa Hospitalet i April 1856. Da Barnet var 3 Maaneder gammelt fik det Kighoste, som behandlede af en Læge med en Hostesaft. Da Barnet under Moderens Pleie ikke vilde trives, udsattes det først her i Byen og senere sendtes det paa Landet, hvor det nu havde opholdt sig omtrent i 6 Maaneder. Allerede før den Tid led Barnet efter Moderens Sigende af tungt Aandedræt og Hoste af og til, samt Brækning. I de seneste Uger blev Hosten hyppigere, Aandedrættet besværligere, Natten søvnløs og Appetiten mindre, hvorfor Barnet sendtes herind. Ved Indkomsten var Respirationen kort, men ei synderlig besværlig, idet et dybere Suk af og til kunde constateres. Hosten kort og hyppig. Ansigtet opdunset, Percussionen viste en mat Lyd ved Basis af høire Lunge og næsten over hele venstre Bryst. Auscultationen havde en tildeels blæsende, tildeels grovt crepiterende Charakter, det sidste især paa høire Side. — Barnet behandledes med Aqua amygdalar. med tilsat Chinin og Extract. hyoscyami; senere Moschus, Fodbade og Olieomslag paa Brystet. Døden indtraadte det andet Døgn.

Ved Obductionen fandtes i høire Pleurasæk noget blodblandet Serum samt et udbredt subpleuralt Emphysem; den venstre Lunge var heelt igjennem lufttom og carnificeret (Collaps, Apneumatose) og sank i Vand.

Dette Tilfælde er et Beviis mere paa, at Følgerne af en Kighoste kunne udvikle sig meget langsomt, og uden at frembringe Tuberkulose dog medføre Døden hos Barneorganismen, fordi Vitalitet og Blodblanding tilsidst ligge under. Phænomenene lode os ved Indkomsten stille Diagnosen paa en Pleuropneumonie.

Albuminurie.

Det er en nu vel kjendt Sag, at albuminos Urin ikke sjelden forekommer hos Børn især efter Scarlatina og Meslinger og i Forbindelse med hydropiske Affectioner. Det synes ogsaa med Hensyn til Reconvalescens efter

disse Sygdomme og under den da stedfindende Hudesqvamation at være af Vigtighed at lægge Mærke til dette Phænomen, om end ingen Anasarka er tilstede; thi under mindre gunstige ydre Forholde, saasom ved at udsættes for kold og fugtig Luft, vil Faren for Hydrops være tilstede i høi Grad under Desqvamationen, dersom Urinen indeholder Albumen, og Forsigtighed saaledes være tilraadelig, skjønt Patientens Tilstand ellers er god.

Under den i afvigte Aar herskende Sygdomsconstitution med jevnlig forekommende Meslinger og tildeels Skarlagensfeber, vare hydropiske Eftersygdomme ikke sjeldne og vi havde ogsaa paa Børnehospitalet Tilfælde af dette Slags under Behandling, hvor Diagnosen ikke var tvivlsom. I et Par Tilfælde derimod laae Erkjendelsen af den tilstedeværende Albuminurie mere fjern, fordi det ikke kunde opgjøres, at noget Exanthem var forudgaaet, ligesom der heller ingen hydropisk Ansamling var tilstede. Paa denne Maade er det tilgaaet, at vi paa Listerne have Sygdomsnavnet „Febris simplex,“ hvor vi senere fandt Forklaringen for det langvarige Ildebefindende i Udskillelsen af Æggehvite. Mathed, Mangel paa Madlyst og Blodbleghed udgjorde de væsentligste Phænomener, hvilke ingen paatagelig Anviisning kunde give til en Undersøgelse af Urinen, naar ikke en herskende epidemisk Constitution hertil havde givet Impuls. Ved Behandlingen af denne Abnormitet har jeg fulgt den Plan, jeg oftere har funden god, og som især er anbefalet af engelske Læger, nemlig ved en mild nutrierende Diæt og roborerende og adstringerende Midler at søge saavel Blodblandings normale Forholde opretholdte, som at indskrænke den abnorme Secretion af Nyrerne. Jernmidler, navnlig Tinct. ferri muriat. med eller uden Essent. aromatica, samt Tannin i

smaae, stigende til større, Doser under Maaltiderne, har ogsaa jeg fundet virksomme, og hvor Hydrops var tilstede, er en diuretisk og bitter Thee tillige anvendt under Leie i Sengen og stor Forsigtighed (uldnede Klæder), naar Patientten senere tillades at komme af Sengen. Milde derivende og aromatiske Indgnidninger over Nyreregionen ere herhos brugte samt lunkne Bade efter Omstændighederne. Hvor Natteroen var forstyrret anvendtes uden Frygt smaae Doser af sederende Medicamenter. Var Feber tilstede gaves Chinin nogle Gange daglig, da jeg med de Læger, som have grundigen prøvet dette Middel, er kommen til den bestemte Overbeviisning, at Chinin nedstemmer den febrilske Tilstand paa samme Tid, som det opretholder Vitaliteten, — Egenskaber som gjøre det til et udmærket Middel i Barnealderen. Udfaldet af de Tilfælde, der forekom paa Hospitalet, var heldigt og i et forholdsvis kort Tidsrum, skjønt en af de Syge i længere Tid under Behandling i Hjemmet var bleven staaende paa det samme Punkt af sygeligt Udseende.

Dr. *Balfour* i Edinburgh*) har i en Afhandling om Albuminurie deelt denne Affection i 4 Arter: 1) Ikke febrilsk og ikke hydropisk Albuminurie, 2) Febrilsk, ikke hydropisk, 3) Febrilsk hydropisk og 4) Ikke febrilsk, hydropisk. Den 3die Art viser sig ofte i flere Inflammationer og febrilske ubestemte Tilstande og jeg troer, at denne Observation ogsaa finder sin Anvendelse paa Barnealderen, hvorfor Lægen bør være opmærksom under et ubestemt febrilsk Ildebefindende; derimod ville flere af de Sygdomstilstande, der hos Voxne give Anledning til Albumen i Urinen og navnlig selvstændig Nyresygdom forholdsvis sjældnere forekomme hos Barnet. Herom mere i det Følgende.

*) Medical Journal, Januar 1856.

Dysuria.

En 3 Aars gammel Dreng indkom paa Hospitalet i April 1855, efterat have skrantet i omtrent 9 Maaneder under jevnlig Diarrhoe med udspændt Underliv. I de sidste 3 Uger var Urinladningen smertelig og afgik til enkelte Tider draabevis; hyppige Stolgange med stærk Tenesme og hakkede Excrementer. Præputium var meget langt og snævert og kunde ikke uden Vanskelighed bringes tilbage over Glans. Feber og Næseblødning. Behandlingen gik i de første Dage ud paa at bekjæmpe Diarrhoen og den febrilske Tilstand; men ved nøiagtig Undersøgelse af Underlivet constateredes Urinblæren saa udvidet, at den naaede op ovenfor Navlen, hvorfor Indbringelsen af Katheter forsøgte, men uden Resultat paa Grund af Barnets Uroe og Smerte ved enhver Berørelse. Patienten blev da chloroformiseret til fuldstændig Anæsthesie og med Lethed katheteriseret. Dette maatte gjentages 2 à 3 Gange daglig i 10 Dage, hvorefter Urinen lodes spontant i Straale og uden Smerte. Den øvrige Behandling bestod i varme Bade, Emulsion med Pollen lycopodii og Extract. hyoscyami, samt Lavementer af Asa foetida med nogle Draaber Solutio ferri muriatici. Senere gaves indvendigt nogle smaae Doser Calomel, bittre Midler med Jern og udvendigt aromatisk Salve paa Underlivet samt Neptunusbelte. Patienten blev fuldkommen rask og udgik efter 7 Ugers Ophold paa Hospitalet.

I dette Tilfælde blev Chloroformisation anvendt mere end 20 Gange uden nogen foruroligende Følge og med den bedste Effect forøvrigt. Under den store Vanskelighed, Katheterens Brug her var forbunden med, begriber jeg heller ikke, hvorledes vi paa anden Maade skulde have naaet Maalet. Formodentlig har Ondet bestaaet lang Tid, uden at være diagnosticeret for hvad det var, idet Diarrhoen med Tenesmen, det udspændte Underliv og den febrilske Tilstand antageligt have været en secundær Affection, bevirket ved Urinens Tilbageholdelse og deelvis Absorption. Albumen var tilstede i Urinen i ringe Quantitet i Begyndelsen, men tabte sig ganske senere.

Naar jeg her siger, at Albumen ganske forsvandt, støtter jeg Erkjendelsen til de vante Undersøgningsmaader med Kogning og Acid. nitricum. Men forresten er det muligt, at denne ældre Methode ingen fuld Sikkerhed frembyder for, at der ikke findes Albumen i ringe Mængde i Urinen. Dr. *Claude Gigon* i Angoulême*) har saaledes i en Memoire til Panserakademiet søgt at godtgjøre, at der findes Albumen i Urinen hos Mennesket og mange Dyr med nogenlunde hurtig Blodcirculation (over 60—70 Slag i Minutet) i normal Tilstand. Herpaa influerer ogsaa for en Deel, om Urinen er suur, da Albumen i saa Fald findes i rigere Mængde. Oxen, Hesten og Æselet, som have en langsom Circulation, vise ingen Albumen i Urinen, med mindre de ved en tilfældig Aarsag faae et hurtigere Blodomløb, medens andre Dyr og især Kaninen samt de nævnte Dyrs Kalve vise Albumen**). Af de Reagentser, som *Gigon* har anvendt for at constatere Tilstedeværelsen af Albumen, anseer han Chloroform for det bedste, idet et Snees Draaber ved nogen Omrystning frembringer et cylindrisk Coagulum, som skal forholde sig som Albumen ved nye Prøver, naar den igjen udskilles. Ellers synes ogsaa Tannin, Kreosot, Plumb. subacetic. o. fl. bedre end de vanligste Prøvemidler. Den Tvivl, som efter *Gigon* kan tænkes reist imod at det udbragte Legeme er Albumen og ikke den af *Mialhe* benævnte Albuminose, bekjæmper han ogsaa. — Om denne nye Prøve havde holdt Stand vilde Læren om Albuminurie have lidt en vigtig Modification,

*) L'Union médic., Nr. 123 og 125, 1857.

**) Af den større Rigdom paa animaliseret Stof i Kaninens Urin blandet med Excrementerne har man ogsaa søgt Forklaringen til en tidligere gjort Observation, at dette Gjødningsstof staaer foran andre Dyrs.

saasom Spørgsmaalet alene vilde dreie sig om Qvantiteten. Men det synes nu allerede ved senere Undersøgelser af *Becquerel**) beviist, at det ikke er Albumen, men Mucus som Chloroformen udskiller af Urinen**) og at dette Reagens heller ikke er at sætte ved Siden af flere Andre for at paavise Albumen. Som de følsomste i saa Henseende nævner *B.* 2de, nemlig: 1) en frisk Blanding af *Acid. aceticum* med en concentreret Opløsning i Vand af *Prussias kalicus*, og 2) *Acidum pyro-phosphoricum*, hvis store Sensibilitet for Æggehvite *Barreswill* har paaviist. Fremtidige Undersøgelser i denne Retning ville utvivlsomt komme Pathologien til Nytte, og sætte os istand til at bedømme Albuminuriens større og mindre Betydning, hvorved det vil blive lettere forklarligt, hvorledes enkelte Personer kunne befinde sig ganske godt under en paaviselig Qvantitet Æggehvite i Urinen i længere Tid. Med Hensyn til overgaaende Albumenudskillelse gennem Urinen da vide vi, at en saadan kan finde Sted i mange Sygdomme, s. s. Cholera, Croup, Pneumonie, Typhus og flere inflammatoriske og Ernærings-Sygdomme, samt ogsaa efter Nydelse af megen Æggehvite (*Barreswill*, *Mialhe*), hvilket bestemt tyder hen paa, at Blodblandingen i Forbindelse med Innervationen af Nyrerne har en stor Betydning som Aarsagsmomenter, uanseet de i Nyrerne tilstedeværende organiske Forandringer, hvilke altsaa ofte kunne gaae tilbage igjen til det Normale, naar de abnorme Forholde endnu ere tilstede i ringe Grad.

*) *L'Union médic.*, Nr. 141 og 155, 1857.

**) At Chloroform omrystet med Urinen stadigen udskiller et Sediment, er utvivlsomt efter de mange Forsøg, jeg dermed har ladet udføre.

Cholerine, Diarrhoe.

I nogle af de forekommende Tilfælde af chronisk Diarrhoe har denne været en Følge af en skrophuløs eller tuberkuløs Dyskrasie i Forbindelse med en mindre passende Ernæring, og det vil for enhver Læge, der behandler saadanne Sygdomme hos Børn være en kjendt Sag, at Diarrhoen ofte afvexler med Obstruction, hvilket gjør Behandlingen vanskelig og vaklende. Efter min Anskuelse og Erfaring er jeg meest tilbøielig til at anbefale en ihærdig Brug i saadanne Tilfælde af samtidig styrkende og mildt resolverende Midler. Bittre Midler med Jern anvendte indvendigt i smaae Doser med Maden saavel som i smaae Lavementer under samtidig Brug af Tran med lidt Iod eller Rheum, samt indvendigt Bade, aromatiske Salver paa Underlivet, sjelden Mercur, ville i flere Tilfælde efter en taalmodig Curation føre til Maalet.

I acute Tilfælde med Charakter af Cholerine og Depression af Vitaliteten bliver naturligviis en mere indvirkende Behandling at forsøge. I Forbindelse med den almindelige Decoct. album og Infus. salab. synes Chinin, ætheriske og narkotiske Midler, Lapis infernalis ofte at yde Nytte, om de anvendes med lidt Dristighed. Smaa Klysterer, oftere brugte, af bittre Sager med lidt Campher, Jern og Opium ere ogsaa i disse Tilfælde virksomme. — Af virkelig ondartet Cholera hos et lille Barn, 2 Aar gammelt, havde vi Anledning til i 1855 at behandle eet Tilfælde. Dette Barn, der af Corpslæge *Backer* nogen Tid før var foreviist i det medicinske Selskab, led af Ectopia vesicæ urinariæ congenita med spaltet Symphysis pubis, og er senere specielt beskrevet af Lector *Voss* i et i 1857 som Universitetsprogram udgivet Arbeide. Barnet døde efter 10 Dages Ophold paa

Hospitalet og ved Obductionen, der efter vor Anmodning udførtes af Lector Voss, viste sig, foruden Tegn til lobulær Pneumonie, 3 Invaginationer i Tyndtarinen, hvoraf den Ene var omtrent 2 Tommer lang med adhærerede Tarmhinder, de øvrige vare løse og lette at udvide.

Chorea.

Af denne Sygdom have 2de af de indtagne Børn lidt, nemlig en 10 Aars gammel Dreng og en 5½ aarig Pige. Hos den første var Sygdommen begyndt et Par Maaneder før Indkomsten, og ansaaes Aarsagen at være Badning i meget koldt Vand tidlig om Foraaret. Hos Pigen ansaaes en forudgaaet Scarlatina at være Aarsagen, uden at nogen bestemt Causalforbindelse kunde paavises, idet Urinen ogsaa var normal eller i alle Fald uden mærkbar Albumen. Bevægelserne af Arme og Been vare usikre hos begge Patienter; Gangen var vaklende, og ingen Gjenstand kunde gribes med Sikkerhed. Hos Pigen viste sig derhos uregelmæssige Bevægelser i Ansigtsmusklerne. Intelligentsen var uforstyrret hos dem begge og ved Undersøgelse af Rygraden var intet abnormt at opdage. Begge Børn viste Tegn til at lide af Helminthiasis, da af og til saavel *Ascarides lumbricoides* som *vermiculares* afgik med Excrementerne. — Behandlingen bestod i Begyndelsen af *Electuarium anthelm.* *Bremseri* og *Thea absynthii* indvendigt, samt *Asa foetida* i et *Infus. absynthii* i et lille Lavement daglig 1 à 2 Gange, hvorefter flere Gange Orm afgik. Senere anvendtes en Opløsning af *Strychnin. acetic.* (gr.iii i *Aqvæ cinnamomi* 3vii og *Alcohol* 3i) daglig 3 Gange stigende fra 2 og 5 Draaber til respective 10 til 15 Draaber. Endvidere Douche langs Rygraden med Vand, der efterhaanden toges ganske koldt,

hvorpaa Ryggen indgnedes med en Blanding af Spirit. lavendular. \mathfrak{z} iv og \mathfrak{z} i Liqv. ammon. caustici. — Efter omtrent 2de Maaneders Ophold i Hospitalet var Pigen helbredet og kunde igjen løbe med Lethed, gribe sin Gjenstand med Sikkerhed og have Herredømme over sine Ansigtsmuskler. Drengen var ligeledes efter omtrent 2 Maaneders Behandling saameget bedre, at han kunde vilkaarligt regjere sit Legeme, og da et forlænget Ophold ikke antoges af nogen overveiende Gavn, blev han udskrevet for nøie at paapasses og behandles i Hjemmet. Om Recidiver er os intet senere berettet.

Tussis convulsiva.

Kun et enkelt Tilfælde af denne Sygdom er kommen til Behandling i Hospitalet. Patienten, et Pigebarn, indkom i et senere Stadium, og Hosten var ikke synderlig slem, men der var i Forløbet begyndt at vise sig Tegn til Tuberkulose med Emaciation. Hun udgik helbredet efter nogen Tids Ophold i Anstalten. I et Par andre Følgesygdomme af Kighoste (Tuberkulose, chronisk Bronchit og Emphysem) blev Udgangen i det ene Tilfælde dødeligt. — Adspurgt for nogen Tid siden af en Collega om min Erfaring og Mening angaaende Kighostens Behandling, blev mit Svar det samme, som jeg her kan nedskrive det, at Kighosten vistnok er en Sygdom, der skal gennemløbe sine Stadier og ikke kan afskjæres; men at jeg ikke derfor ganske hylder den af flere Læger udtalte Mening, at al medicinsk Behandling i den ucomplicerede Sygdom er unyttig*). Tvertimod har jeg den Troe, at

*) Hvis den af Dr. *Beau* i Académie des sciences (Gaz. des hôpit., Nr. 97, 1856) fremstillede Theorie var rigtig, nemlig at Kighosten er en Phlegmasie i det Partie af Larynx, der

Hygieine (jevn Temperatur og mild Diæt af Melkespiser) i Forbindelse med Medicamenter kunne samtidigt med Gavn sættes i Anvendelse og bidrage til at formilde Phænomenerne og forkorte dens Forløb. Af de forskjellige anbefalede Midler foretrækker jeg dem, som besidde en sederende (indirecte antiphlogistisk) Kraft uden at svække Digestionen. *Aqua amygdalarum conc.* alene eller med lidt *Acid. hydrocyanicum* i behørige smaae, men stigende Doser med tilsat *Moschus* eller *Extract. hyoscyami* eller *Belladonna* efter Hostens Hefthighed, har jeg saaledes oftere brugt med formeentlig god Nytte, hvorhos jeg i Almindelighed ogsaa samtidigt og vedholdende bruger lidt Bittert, naar Fordøielsen, især under Tilstedeværelse af Orm, gjør det ønskeligt. Som et Middel af udtalt Gavn har jeg ogsaa, endog hos mindre Børn, anvendt et lille *Vesicatorium* i *Cardia* med endermatisk Brug af *Chinin* og *Morphin*. *Stibiatsalve* er hverken saa virksom eller saa let at bære som dette Middel. Ellers ville daglige Fodbade med varmt Vand alene eller med tilsat Sennep altid med Nytte bruges efter min Erfaring, da de aflede mildt, men jevnt, og kunne repeteres uden at irritere Huden til Overmaal, naar ikke for meget Sennep tilsættes. Som vedvarende Omslag virker Sennepsvandet stærkere, og finder bedre sin Anvendelse i mere acute Sygdomme i Barnealderen.

ligger over Glottis, og Anfaldene bevirkede ved det nedflydende *Secrét*, burde vi heller ikke tvivle om en Behandlings Nytte. At denne Forklaring dog er eensidig, vil klart fremgaac, naar man tænker paa den hurtige Forandring, disse *Paroxysmer* kunne undergaae ved at ombytte Luft, ved et Sennepsfodbad om Aftenen o. s. v., hvorved ikke let en *Secretionsvirksomhed* strax kan ophøre.

Croup — Tracheotomie.

Af denne farlige Sygdom ere flere Tilfælde forekomne i Løbet af de 3 Aar, som Beretningen omfatter, skjønt de ikke findes paa Listerne. Et Par Børn ere nemlig førte til Hospitalet saagodtsom døende og ere døde inden faa Timer, hvorfor de ikke ere optagne i Sygetallet eller Regnskabet. Et Par Børn have — til meget forskellige Tider — faaet Sygdommen under Opholdet paa Hospitalet og findes saaledes paa Listerne under andre Sygdomsbenævnelser. Et af disse Børn, der led af Bronchit, fik formodentlig Croup ved Uforsigtighed fra Moderens Side, da hun mod Advarsel oftere bragte Barnet til aabent Vindue, naar Værelset reengjordes, istedetfor at føre det ind i næste Rum. Respirationsbesværligheden tiltog i Løbet af et Par Dage hurtigt til Trods for de anvendte Midler, og da Moderen ikke vilde paa nogen Maade gaae ind paa Tanken om Tracheotomie, saasom hun paastod, at det Hele blot var en simpel Forkjølelse og ivrigt forlangte at komme hjem med sit Barn, blev hun udskrevet for at behandles i Hjemmet. Barnet døde senere.

Et andet Barn, der led af Caries i flere Lede og værst i den høire Haand og Arm, angrebes af Croup-phænomener uden nogen paatagelig Aarsag. Da Suffocationsfare snart indfandt sig, gjordes Tracheotomie, hvorefter Barnet blev i Løbet af 2de Dage saa meget bedre, at der var al Anledning til Haab om et endelig godt Udfald. Dette blev dog uopfyldt, idet der efterhaanden indtraadte Phænomener af en pneumonisk Tilstand med Hoste, Dyspnoe og hurtig Puls; Barnet døde paa 5te Døgn efter Operationen, og ved Obductionen viste sig Udsvedning i membranøs Form heelt ned gjennem Bronchierne, hvis ene store Green til venstre Side fandtes

lukket som ved en Klap af plastisk Exsudat, der hindrede Inspirationen.

Et 5te Barn, en 6aarig Søn af en Lods, indkom paa Hospitalet med udtalt Croup tone under Respirationen, skjønt Hosten var ubetydelig og intet Belæg kunde opdages hverken i Svælget eller i noget Expectorat. Han havde lidt af katarrhalsk Hoste et Par Dage i Forveien, da Aandenoden et Døgn før Indkomsten blev saa stærk, at en tilkaldt Læge strax (om Morgen) fik ham sendt til Børnehospitalet. Behandlingen bestod i et altererende Laxans af Calomel med Jalap aa gr.x, Emeticum af Infus. ipecacuanhæ (3i-3ii) med tilsat Cupri sulphuric. gr. $\frac{1}{4}$ — $\frac{1}{2}$ til hver Skee, at give hver $\frac{1}{4}$ Time. Dernæst gaves samtidigt Chinin. sulphuric. med Morphin i Elixir paregoric. (respective gr.i-ii og gr. $\frac{1}{8}$ — $\frac{1}{4}$), af Frygt for en mere svækkende Behandlings slemme Følger. Udvendigt om Halsen anbragtes varme Vand- og Eddikeomslag, varme sinapiserede Omslag om Benene, og Bomolieomslag med Terpenthinolie paa Brystet. Sygdommen gik imidlertid saa hurtigt frem til det Værre, at alt Haab om Bedring var tabt allerede om Eftermiddagen; han laae apathisk uden at gjøre forcerede Anstrængelser, skjønt Aandenoden var i høieste Grad tilstede, og han kunde neppe synke en theskeefuld Vædske. Puls lille og meget hyppig (140). Brækning var saagodtsom udebleven, ligesaa Afføring, hvorfor et Lavement gaves.

Tracheotomie var under disse Omstændigheder den eneste Tilflugt, og jeg bestemte mig til at foretage den, skjønt mit Haab var jevngodt med intet. Ved et tilfældigt Besøg assisterede ved Operationen et Medlem af Hospitalets Direction Dr. *Steffens*, foruden Anstaltens Reservelæge *Heyerdahl* og dens Candidater *J. C. Holst* og *Lie*.

Efter *Trousseau's* Raad besluttede jeg denne Gang, ligesom ved den før omtalte Leilighed, at operere langsomt, at blotte Trachea fuldstændigt og vente med at aabne den, indtil al Hæmorrhagie var standset. Hudsnittet gjordes over en blækmærket Fold for undgaae en Vene, der gik midt nedover Trachea, og herefter fandt heller ingen Blødning Sted, men ved at indskjære den nederste Deel af Glandula thyreoidea blev Blødningen fra en enkelt Vene meget langvarig og besværlig. En anden temmelig blodfyldt Vene laae lige over den nederste Deel af Trachea, hvor den skulde aabnes; men denne blev af *Lie*, der med Hager adskilte Saarrandene, opdaget i Tide og ført til Siden med den ene Hage. Ved Compression med Charpie dyppet i Solutio chloret. ferrici kunde Blodet fra Glandula thyreoidea standses, medens Luftrøret aabnedes, og da Luften trængte ind og Sølvrøret var indbragt, ophørte som sædvanlig al Blødning af Venerne. Ved Operationens Ende var Drengen imidlertid in articulo mortis. Respirationen var borte i flere Secunder af Gangen og Pulsen næsten ufølbart. Under vedholdende Bestræbelser med vexelviis Sammentrykning af Brystet fra Siderne og fortil lykkedes det at underholde en kunstig Respiration, med hørlig Gjennemgang af Luft i Røret, og desuden kunde vi ved at indbringe en lille Svamp paa en Fiskebeensstav gjennem Røret heelt ned i Bronchierne frembringe en Incitation, der umiddelbart fulgtes af flere kraftige Respirationer, — et Beviis paa, at Trachea nedenfor Larynx ikke er ufølsom, som enkelte amerikanske Læger formene og ligeledes her er anført i vort medicinske Selskab. Efterat en Deel seigt Sliim — ingen Membraner, — vare deels udtagne med Svampen og deels ophostede, udviklede sig en mere jevn og rolig Respiration.

tion. Drengen sov godt om Natten, Pulsen faldt betydeligt og Respirationen gik i de følgende Dage nogenlunde godt for sig, naar Røret kunde holdes frit for det ualmindelig seige og rødlig Sliim, som i rigelig Mængde afsondredes i de finere Bronchialgrene. En rask Indsugning med Munden var et expedit Middel, naar Hosten og Svampen ikke vare tilstrækkelige til at skaffe Slimet heelt ud og Candidat *Lie* hjalp oftere paa den Maade af Interesse for Drengen. Over Røret aubragtes stadigt en i lunkent Vand dyppet Lap af fieerdobbelt Gaze. Under en variabel Tilstand paa Grund af Exacerbationer af den katarrhalske Pneumonie gik Patienten dog efterhaanden fremad. Han brugte stadig Chinin med Morphin og dertil nogle Draaber Ol. terebinthinæ, Chloratis kalici gr.x 3 Gange daglig opløst i Suppe, samt de omtalte udvendige Midler. Melk, kogt og tilsat med lidt Kogsalt for at gjøre den mere digestibel, Æggeblomme og tynd Kjød-suppe gaves som Diæt ikke sparsomt. Da vi første Gang forsøgte at udtage det ydre Rør efter 5 Dages Forløb, var Rima glottidis endnu for trang og et nyt Rør maatte igjen indføres, hvilket let lod sig udføre ved at anbringe i samme en lille Obturator; senere (14de Dag) da Pulsens stadien holdt sig normal (fra 80—90) og Hosten tabte sig, blev et nyt Forsøg gjort og med Held. Han udskreves med tilhelet Saar rask efter 27 Dages Ophold i Hospitalet. Hans største Plage i den seneste Tid var Hudløsheden paa Benene efter Sennepsomslagene.

Hydrocele — Anasarca.

Blandt andre Sygdomme, som have gjort en chirurgisk Indgriben nødvendig, kunne nævnes et Par Tilfælde af Hydrocele tunicæ vaginalis, der begge bleve helbredede ved

Punction og Indsprøitning med fortyndet Iodtinctur. Da imidlertid det ene af disse Tilfælde er mærkeligt og belærende ogsaa i anden Henseende, anseer jeg det af Nytte for de Colleger, der ville gjenneengaae denne Beretning, at fremstille en cursorisk Sygehistorie:

Barnet, en 2aarig Dreng fra Landet (Eidsvold), havde efter Moderens Opgivende altid været rask, indtil det i den sidste Maaned angrebes af en temmelig stærk Hoste, og et Par Uger senere af en betydelig Svulst i Scrotum, der opstod hurtigt og uden nogen kjendt Aarsag. Denne Hævelse viste ved Indkomsten i Mai 1855 alle Tegn til en afsluttet Hydrocele vaginalis uden nogen Communication med Bughuulheden. Mod Hosten forordnedes 4 Draaber af Elixir paregoric. og Chloroform, og efter Operationen af Vandbrokket omgaves Scrotum med Colloidum og bestrøges senere efter dettes Affald med Iodtinctur. Faa Dage efter Ankomsten viste sig paa Barnets Underliv et Exanthem af rødbrune lidt ophøiede Pletter af omtrent 4 Liniers Diameter, der i de første Dage ingen Almeenaffection frembragte og ikke heller udbredte sig til andre Steder af Legemet. Men nogle Dage senere udviklede der sig en betydelig odematøs Hævelse af Underextremiteterne i Forbindelse med Feber, Hede i Hovedet og i Huden, Tørst, hurtig Puls o. s. v. Ved Undersøgelse med Acid. nitricum og Kogning viste der sig en rigelig Quantitet Albumen i Urinen. Fra denne Tid behandlede Barnet med lunkne Bade samt efter Behovet koldt Vand paa Hovedet en enkelt Gang, samt Terpenthinomslag over Lænderegionen; indvendigt Chinin. sulphuric. 3i opløst i Svovlsyre og Aqvæ foeniculi 3i cochl. min. t. p. d. samt en Blanding af Tinct. ferri muriat., Acet. squillit. og Essent. aromat., 10—15 Draaber nogle Gange daglig. I Løbet af 3 Uger aftog den hydropiske Tilstand under et tiltagende bedre Almeenbefindende, Albumen blev borte, Urinen og Testiklen fik sin normale Skikkelse. Drengen udskreves ganske rask omtrent 5 Uger efter Indtagelsen.

Dette Tilfælde giver os et Beviis mere for den Lethed, hvormed en alvorlig Blodsygdom (Albuminurie) i Hast kan udvikle sig hos Børn, skjønt det nok kan være muligt at en sygelig Almeentilstand allerede var

tilstede ved Indkomsten. Exanthemet paa Underlivet var ingen Scarlatina og efter sin Gang heller ikke Morbilli, men da det saa ofte hænder os at see bastarde Former saavel med Hensyn til Gang som Udseende, er det ikke usandsynligt, at Blodsygdommen dog daterer sig fra Hudaffectionens Udbrud. Jeg siger „Blodsygdom,“ fordi jeg ikke godt kan tænke mig, at nogen primær Nyreaffectioen i saadanne overgaaende Albuminurier har nogen væsentlig Part i Sygdommen, men at den forstyrrede Ligevægt i Secretionen nærmest afhænger af en pervers Blodblanding og Innervation. Det synes mig ogsaa, at dette Tilfælde ved Siden af saamange andre giver os som praktiske Læger en god Admonition om jevnlig at undersøge Urinen hos Børn, for saa tidligt som muligt at imødegaae en langvarig Sygdom og en maaskee endnu langvarigere Reconvalescents. Den anførte Behandling med Chinin er fremgaaet af min Erfaring om Nyttens af dette Middel i Børnealderen selv i Febertilstande, da det nedstemmer Pulsens og til samme Tid støtter Vitaliteten, og angaaende Brugen af Jern i smaae Doser og om fordøielige Præparater i Forbindelse med Næringsmidlerne, da har jeg, som forhen sagt, adopteret denne Behandling fra England og fundet mig vel ved den.

Combustio.

Under en opkommen Ildsvaade i et Huus i en af Forstæderne blev et lille Pigebarn, 2 Aar gl., liggende i sin Seng, medens Væggen brændte i Værelset, og først senere reddet, da Ilden var slukket. Hele Ansigtet og begge Hænder og Underarme vare forbrændte i den Grad, at Virkningen havde strakt sig gjennem alle Hudlag i Ansigtet, og paa Fingrene ligetil Cartilagines i Ledene.

Da Øielaagene i den første Uges Tid vare meget svulne, kunde Tilstanden af Bulbi ikke bedømmes; men efterhaanden som Hævelsen faldt og det lykkedes at fjerne Palpebræ fra hinanden og indbringe fin Olie mellem Randene, fandtes Corneæ klare og Øieæblerne ellers ubeskadigede. I Begyndelsen syntes Barnets Tilstand lidet Haab at give, da en kort og ængstelig Respiration med Uroe og Tørst lod frygte en abnorm Tilstand i Lungerne (Oedem); men under stadig Brug af Moschus og Chinin tabte denne Tilstand al betænkelig Betydning og Barnet fik god Appetit og sov roligt, hvorhos Saarfladerne under Forbinding med fin Olie og senere Chlorkalkliniment begyndte at tilhele i Ansigtet, medens Underarmen endnu viste en dybere Destruction og suppurerede. Der var saaledes Haab om Bedring, men en Morgen — 4 Uger efter Forbrændingen — døde den lille Patient pludseligt, efterat have som sædvanligt nydt sin Frokost af Melk og Tvebak, uden at yttre noget Tegn paa Lidelse. I de Par sidste Dage var det dog lidt mindre livligt end i den nærmest foregaaende Tid. Obductionen gav intet paatageligt Resultat, som Aarsag til den hurtige Død. Vitalitetens Udtømmelse er saaledes den eneste skjønt lidet tilfredsstillende Forklaring, man i dette som i flere lignende Tilfælde kan give for den indtraadte Død.

Teleangiectasie.

Et 7 Maaneder gammelt Pigebarn indkom med en erectil Svulst paa Forfladen af Brystet strax ovenfor Cardia af Størrelse som en Hasselnød. Den var tilheftet med en forholdsviis tyk Stilk, blaaligrød af Farve og vasculøs af Structur, idet den ved Tryk blev noget mindre og blegere. Efter Moderens Angivelse var Barnet født

med en lille rød Plet paa Stedet, hvilken senere havde naaet en Størrelse, der vakte Frygt. Barnets Befindende ellers godt. Den behandlede først ved jevnlig Pensling med en stærk Opløsning af Chloretum ferri og senere i Forbindelse hermed tillige med kunstig Kulde efter Dr. *Arnott's* Methode, idet Iis og Salt i en Sølvskæe appliceredes paa Hævelsen i den Hensigt at mortificere og obliterere Karrene. Hævelsen blev ogsaa mindre og Bedækningen skrumpet ved disse Midler, men da denne Behandling gik langsomt, blev en Blytraad vundet om Petiolus og daglig sammentrukket. Senere ombandtes den tynde Stilklevning med en Silketraad, hvorefter Svulsten faldt af. Det ubetydelige Saar tilhelede rask ved Touchering med Lapis infernalis. Barnet udskreves frisk efter en Maanedes Ophold i Hospitalet.

Af de mange og virksomme Methoder, som i de senere Tider ere anbefalede mod disse Svulster, var i dette Tilfælde Underbinding det meest expedite paa Grund af Hævelsens petiolate Form.

Senere er et andet Tilfælde af Teleangiectasie af større Udbredning forekommen hos et $\frac{5}{4}$ Aar gammelt Barn. Karudvidningen var her begyndt med en lille Plet i Nakken og mærkedes ved Barnets Fødsel. Hævelsen voxede stadigt og var ved Indkomsten af en stor Kobberskillings Størrelse med ophøiede svampede Rande og delvis ulcereret og i ringe Grad blødende Overflade. Et svampet Netværk af udvidede Capillærkar føltes gennem Hudlagets hele Tykkelse og ned i det underliggende Cellevæv. Den blev behandlet først med Pensling af Solut. ferri muriat. og senere med Paastrygning af Collodium med Tinct. ferri muriat. ætherea (Tinct. Bestucheffi). Naar det paastrøgne Lag løsenede ved den paa Overfladen se-

cernerede Vædske, ophørtes for en Dags Tid, indtil Fladen var tør, hvorefter igjen Jerncollodiet anbragtes. Under denne Behandling trak Karrene sig sammen og Hævelsen formindskedes i mærkelig Grad. Hudfladen var af mere normal Structur og lidt hvidlig Farve; senere er en Blanding af Iod og Collodium anvendt. Barnet har faaet Die af sin Moder under hele Behandlingstiden.

Blandt Sygdomme, der nærmere tilhøre det chirurgiske Gebet, skal jeg foruden de tidligere omtalte nævne følgende:

Periostitis maxillæ superioris forekom, uvist af hvad Aarsag, hos et Barn, lidt over eet Aar gammelt. Betændelsen, hvormed stærk Svulst var forbunden, strakte sig over det halve Ansigt, ind i Orbita og nedad mod Alveolarranden og endte med Afstødelse af et Beenstykke, der løsnede fortil over Alveolarprocessen og strakte sig opad mod Nasalprocessen. Tilfældet, der er opført paa Listerne under Benævnelser Abscessus, helbredede fuldkomment.

Hernia inguinalis, dels paa een dels paa begge Sider, er behandlet alene med gode Brokbind, og ved en omhyggelig Anlæggelse, hvortil Mødrene ere blevne oplærte, ere disse Tilfælde blevne grundigt helbredede. Det synes ogsaa rimeligt, at de Læger, der undertiden fra en fjernere Omegn have sendt saadanne Tilfælde hid, ved en nøiagtig Veiledning vilde have kunnet raade Bod paa dem i Hjemmet.

Caput retroflexum forekom som chronisk Affection hos et 3 Aar gammelt Drengbarn, uden at noget Abnormt kunde opdages hverken ved Muskler eller Beenbygningen. Hans Almeenbefindende holdt sig godt under

Brugen af Tran og bittre Midler, og da Ondet, under en manglende Contractur af Musklerne, nærmest maatte ansees som en Neurose eller Irritation af Nerveindflydelsen fra Rygmarven, blev en Moxa anbragt i Nakken. Drenge-
 gen udgik efter 7 Ugers Ophold i god Bedring med Hensyn paa Tilbøieligheden til Retroflexion af Hovedet og iøvrigt ved god Helbred.

Fractura femoris hos et Pigebarn, 1½ Aar gammelt, forårsaget ved Overkjøring, behandledes med Stivelsebandage og Extension og tilhelede uden nogen Forkortelse af Lemmet.

Obductioner ere foretagne af næsten alle de Patienter, som ere døde paa Hospitalet, og de fundne Abnormiteters Betydning og Forbindelse med Sygdomstilstanden ere demonstrerede for de tjenstgjørende Volonteurer. Nogen mere speciel Redegjørelse herfor end den, der leilighedsvis er givet i denne Beretning ved at omhandle enkelte Sygdomstilfælde, skulde ingen synderlig Interesse frembyde, da de nyere mere eller mindre vidtløftige Haandbøger i den pathologiske Anatomie i ethvert Fald omhandle de enkelte pathologiske Forandringer paa en mere fuldstændig Maade, end det her kunde skee, og saaledes give Enhver, der vil gjøre sig bekjendt med denne Deel af Videnskaben, en tilstrækkelig Veiledning for Bedømmelsen af de anatomiske Forholdes Værd med Hensyn til den praktiske Medicin.

Sygdeliste for Børnehospitalet.

for Aarene 1855—1857.

Sygdomme.	Indkomne.		Udgangne.						Døde.		Tilbage- gelig- gende	
			Helbredede.		I Bedring.		Uhelbredede.					
	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.
Abscessus	1	1	1	1								
Arthrocace cubiti . . .	1		1									
Bronchitis	4	2	4	2								
Caput retroflexum . . .	1				1							
Caries	3	1	3							1		
Cholera		1								1 ¹		
Combustio		1								1 ²		
Contusio	2		2									
Coxalgia	2		1						1			
Coxartrocace	2	2			1						1	2
Diarrhoea	3	2	3	2								
Dystrophia	3	2	2	2					1			
Dysuria	1		1									
Eczema	1	1	1							1		
Emphysema pulmonum . .		1								1		
Erysipelas	1								1 ³			
Febris simplex	2		2									
Fistula lacrymalis . . .	1										1	
Fractura femoris		1				1						
Gonarthrocace	1		1									
Helminthiasis		1		1								
Hernia ingv. congenita . .	2		2 ⁴									
Hydrocele tunicae vagi- nalis	2		2									
Hydrops post scarlatin. .	1		1									
Impetigo	1	1	1	1								
Inflammatio mammae . .	1		1									
Keratitis	3	2	3	2								
Laryngitis (Croup) . . .	1	1		1							1	
Sidens Beløb	40	20	32	12	2	1	„	„	3	5	3	2

¹⁾ Havde tillige Ectopia vesicae urin. — ²⁾ Døde pludselig under Reconvalenscenten; Obductionen gav ingen Oplysning. — ³⁾ Var tillige hydropisk Obductionen viste Vand i Pleura, Pericardium og Abdomen. — ⁴⁾ Ud-
gik med Brokbind.

Sygdomme.	Indkomne.		Udgangne.						Døde.		Tilbage- gelig- gende.	
			Helbredede.		I Bedring.		Uhelbredede.					
	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.	Mdk.	Qdk.
Overført	40	20	32	12	2	1	"	"	3	5	3	2
Chen inveteratus. .	1		1									
Encephalitis tuberculosa		1		1								
Ophthalmia blennorrh.		1		1								
Ophthalmia neonatorum	15	12	10	12	2 ¹				2 ²		1	
Ophthalmia scrophulosa	11	20	9	18		2	1 ³				1	
Orchitis	1	1	1	1								
Otitis	1	1	1	1								
Pneumonia	4	2	2	2					2			
Ellarthrocace	1				1							
Condylarthrocace . .	4	1	2	1					1		1	
Ophtalmia	1	2				1 ⁴			1 ⁵	1 ⁶		
Reangiectasia		1		1								
Tuberculosis		2		1						1		
Epilepsia convulsiva . .		1				1						
Ulcus pedum	1								1 ⁷			
Os contusum	1		1									
Børn med eget L.-Nr.												
Børn som passe Børnene .		16		15								1
Børn med diende Børn												
Børn med eget L.-Nr. .		44		43								1
Summa	81	125	59	109	5	5	1		10	7	6	4

1) Efter eget Forlangende. — 2) Døde af Atrophia syphilitica. — 3) Øiet var destrueret ved Indkomsten. — 4) Overflyttedes til Røgshospitalets Hudsyggeafdeling, da Moderen havde constitutionel Syphilis. — 5) Syphilitiske Phænomener fra Fødselen; var ved Indkomsten yderlig atrophisk. 6) Døde af Pneumonia duplex; havde lidt af Bronchitis med Hoste i 1½ Aar. — 7) Døde af tuberkuløs Meningit.

Bespiisningsreglement for Børnehospitalet.

Morgen: Melk $\frac{1}{2}$ Pot, Rugbrød, 6 Lod.

Middag:

Søndag: Kjødsuppe $\frac{1}{2}$ Pot, kogt paa Kjød 12 Lod, Riis 1 Lod, Rødder og Grønt efter Skjøn.

Mandag: Kjøddeig, stegt eller kogt, hvortil: Kjød 6

Lod, Hvedemeel $\frac{1}{2}$ Lod, Smør $\frac{1}{2}$ Lod, Melk $\frac{1}{12}$ Pot.

Tirsdag: Fersk Fisk 6 Lod, kogt, med rørt Smør, hvortil: Melk $\frac{1}{24}$ Pot, Hvedemeel $\frac{1}{4}$ Lod, Smør $\frac{1}{2}$ Lod.

Onsdag: Som Søndag.

Thorsdag: Som Tirsdag.

Fredag: Som Søndag.

Løverdag: Som Mandag.

Derhos gives daglig til Middag Rugbrød 6 Lod og Poteter $\frac{1}{16}$ Fjerdingkar.

Eftermiddag:

Søndag: Melkegrød $\frac{1}{2}$ Pot, hvortil: Melk $\frac{3}{8}$ Pot, Hvedemeel 4 Lod, Øl $\frac{1}{2}$ Pot, Havanna 1 Lod.

Mandag: Sød Suppe $\frac{1}{2}$ Pot, hvortil: Byggryn $\frac{1}{2}$ Pot, Havanna 1 Lod, Saft $\frac{1}{24}$ Pot.

Tirsdag: Melkevelling $\frac{1}{2}$ Pot, hvortil: Melk $\frac{3}{8}$ Pot, Riisengryn 3 Lod.

Onsdag: Som Søndag.

Thorsdag: Som Tirsdag.

Fredag: Som Søndag.

Løverdag: Øllebrød $\frac{1}{2}$ Pot, hvortil: Øl $\frac{1}{4}$ Pot, Melk $\frac{1}{12}$ Pot, Hvedemeel $1\frac{1}{2}$ Lod, Havanna $1\frac{2}{3}$ Lod.

Derhos gives daglig til Eftermiddag: Hvedeskonrok 1 Stk.

Aften: Som Morgen.

For Rugbrød 6 Lod kan ordineres Hvedeskonrok 1 Stk.

Børnediæt.

Riissuppe $\frac{3}{4}$ Pot, hvortil: Riis 3 Lod, Havanna 1 Lod, Saft $\frac{1}{24}$ Pot, Hvedeskonrok 1 Stk., Melk $\frac{1}{2}$ Pot.

Spis-Ordning för ett Kost- och Convalescent-Barn vid Allmänna Barnhuset i Stockholm.

Söndagen:

Frukost: Smörgås. Et franskt mjukt bröd för halfva antalet barn, och 24 lod mjukt Rågbröd åt andra hälften. 1 lod Smør.

Middag: Kokt färskt Kött med steksås och Potates samt Soppa med grönsaker. Ett mjukt franskt bröd (se härofvän), 12 lod Kött och $\frac{1}{24}$ dels kappe Potates. Till Såsen: $\frac{1}{4}$ lod Smør och $\frac{1}{4}$ lod Hvetemjöl. Till

Soppans afredning: $\frac{1}{2}$ lod Hvetemjöl. Till hvarje Barn utdelas Soppa $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Korngrynsvälling: Ett franskt mjukt bröd, 1 jungfru mjölk, $1\frac{1}{2}$ lod korngryn och 1 lod Hvetemjöl. — Till hvarje Barn utdelas Välling $\frac{1}{8}$ kanna.

Måndagen:

Frukost: Ölsoppa. Ett franskt mjukt bröd, $\frac{1}{2}$ jungfru mjölk, 1 lod hvetemjöl, 1 lod syrup och $\frac{1}{4}$ jungfrur dricka. — Till hvarje Barn utdelas Ölsoppa $\frac{1}{8}$ kanna.

Middag: Vintertiden lika med Sommartiden, Färskt Kött med Potates och Soppa. Ett franskt mjukt bröd, 12 lod kött och $\frac{1}{24}$ kappe potates. Till såsen: $\frac{1}{4}$ lod smör och $\frac{1}{4}$ lod hvetemjöl. Till soppans afredning: $\frac{1}{2}$ lod hvetemjöl. — Till hvarje Barn utdelas Soppa $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Korngrynsgröt och Mjölk. 7 lod korngryn och 2 jungfrur mjölk. — Till hvarje Barn utdelas Gröt $\frac{1}{8}$ kanna.

Tisdagen:

Frukost: Smörgås. Ett franskt mjukt bröd och 1 lod smör.

Middag: Smörgås och Korngrynsvälling: Ett franskt mjukt bröd, 1 lod smör, 2 lod korngryn, 1 lod hvetemjöl och 2 jungfrur mjölk. — Till hvarje Barn utdelas Välling $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Vintertiden Lutfisk. Sommartiden: Korn- eller Hafregrynsgröt och Mjölk. Ett franskt mjukt bröd och 16 lod lutfisk. Till såsen: $\frac{1}{2}$ lod smör och $\frac{1}{2}$ lod hvetemjöl. 7 lod korn- eller hafregryn och 2 jungfrur mjölk. Till hvarje Barn utdelas Gröt $\frac{1}{8}$ kanna.

Onsdagen:

Frukost: Mjölkvälling. Ett franskt mjukt bröd, 2 jungfrur mjölk, $\frac{1}{2}$ lod smör och 2 lod hvetemjöl. — Till hvarje Barn utdelas Välling $\frac{1}{8}$ kanna.

Middag: Färskt Kött med Potates och Kötsoppa. 12 lod kött, ett franskt mjukt bröd och $\frac{1}{24}$ kappe potates. Till såsen: $\frac{1}{4}$ lod smör och $\frac{1}{4}$ lod hvetemjöl. Till soppans afredning: 1 lod hvetemjöl. — Till hvarje Barn utdelas Soppa $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Korngrynsgröt och Mjolk. 7 lod korngryn och 2 jungfrur mjolk. — Till hvarje Barn utdelas Gröt $\frac{1}{8}$ kanna.

Thorsdagen.

Frukost: Ölsoppa: Ett franskt mjukt bröd, $\frac{1}{2}$ jungfru mjolk, 1 lod hvetemjöl, 1 lod syrup och 4 jungfrur dricka. Till hvarje Barn utdelas Ölsoppa $\frac{1}{8}$ kanna.

Middag: Färskt Kött med Potates och Köttssoppa: Ett franskt mjukt bröd, 12 lod kött och $\frac{1}{24}$ kappe potates. Till såsen: $\frac{1}{4}$ lod smör och $\frac{1}{4}$ lod hvetemjöl. Till Soppans afredning: 1 lod hvetemjöl. — Till hvarje Barn utdelas Soppa $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Korngrynsvälling. Ett franskt mjukt bröd, 2 lod korngryn, $1\frac{1}{2}$ jungfru mjolk och 1 lod hvetemjöl. — Till hvarje Barn utdelas Välling $\frac{1}{8}$ kanna.

Fredagen.

Frukost: Smörgås: Ett franskt mjukt bröd och 1 lod smör.

Middag: Färskt Kött med Potates och Köttssoppa: Ett franskt mjukt bröd, 12 lod kött och $\frac{1}{24}$ kappe potates. Till såsen: $\frac{1}{4}$ lod smör och $\frac{1}{4}$ lod hvetemjöl. Till soppans afredning: 1 lod hvetemjöl. — Till hvarje Barn utdelas Soppa $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Lungmos: Ett franskt mjukt bröd, 12 lod hjertslag och 3 lod korngryn; kryddor tages efter behof. — Till hvarje Barn utdelas Lungmos $\frac{1}{8}$ kanne.

Lördagen.

Frukost: Ölsoppa. Ett franskt mjukt bröd, $\frac{1}{2}$ jungfru mjolk, 1 lod hvetemjöl, 1 lod syrup och 4 jungfrur dricka. — Till hvarje Barn utdelas Ölsoppa $\frac{1}{8}$ kanna.

Middag: Kokt färsk eller salt Strömming med stufvad Potates och Hafresoppa. Ett franskt mjukt bröd, 10 lod strömming och $\frac{1}{24}$ kappe potates. Till stufning af Potates: $\frac{1}{4}$ lod smör och $\frac{1}{4}$ lod hvetemjöl. Till Hafresoppan: $2\frac{1}{2}$ lod hafregryn och $\frac{1}{2}$ jungfru mjolk. — Till hvarje Barn utdelas Hafresoppa $\frac{1}{8}$ kanna.

Aftonvard: $\frac{1}{2}$ Rågskorpa.

Afton: Korngrynsgröt och Mjolk: 7 lod korngryn och 2 jungfrur mjolk. — Till hvarje Barn utdelas Gröt $\frac{1}{8}$ kanna.

Extra-Portioner:

Hafresoppa, tjock, 1 kvarter: 2 lod Hafregryn, 1 lod Syrup, $2\frac{1}{2}$ lod Sviskon. Ättika, till passande sötsur smak. Mjöl, 4 jungfrur, söt och oskummad.

Bouillon, 1 kvarter, 12 lod färskt Kött, kokadt till köttets möjligaste upplösning.

Bröd, Ett franskt bröd à 8 rst. banko stycket.

Risgrynsvälling: 2 lod Risgryn, $\frac{1}{2}$ kvarter Mjöl, $\frac{1}{2}$ kvarter Vatten.

Ägg, friska.

Diet Table. Hospital for Children in London.

	Simple Diet.	Pudding Diet.	Broth Diet.	Meat Diet.
Breakfast at 8 o'Clock	Bread 3 oz., Butter $\frac{1}{2}$ oz., Milk and Water $\frac{1}{2}$ Pint.	Bread 4 oz. with Butter, Milk and Water $\frac{1}{2}$ Pint.	Bread 4 oz. with Butter, Cocoa $\frac{1}{2}$ Pint, or Milk and Water.	Bread 4 oz. with Butter, Cocoa $\frac{1}{2}$ Pint, or Milk & Water.
Dinner at 12 o'Clock	or, Bread 1 oz. Thin arrowroot $\frac{1}{2}$ Pint. Broad 1 oz.	Rice Pudding. Bread Pudding, or Suet Pudding. Milk and Water $\frac{1}{2}$ Pint.	Bread 2 oz. Mutton Broth, with Vegetables, $\frac{1}{2}$ Pint. Mashed Potatoes 4 oz.	* Roast Mutton 3 oz. (when cooked) Mutton Broth (strained) $\frac{1}{2}$ Pint, Mashed Potatoes 6 oz.
Tea at 4 o'Clock	Bread 3 oz., Butter $\frac{1}{2}$ oz., Milk and Water $\frac{1}{2}$ Pint.	Bread 4 oz. with Butter, Milk and Water $\frac{1}{2}$ Pint.	Bread 4 oz. with Butter, Milk and Water $\frac{1}{2}$ Pint.	Bread 4 oz. with Butter, Milk and Water $\frac{1}{2}$ Pint.
Supper at 6 o'Clock.	Acidulated Barley-Water or Rice Drink, or white Rice Drink. Decoction. As Drinks.	Thin arrowroot $\frac{1}{2}$ Pint.	Gruel $\frac{1}{2}$ Pint.	Gruel $\frac{1}{2}$ Pint.

*) Boiled Mutton to be substituted for Roast Mutton on one day in the week.



A VISIT TO THE REKNAES HOSPITAL FOR LEPERS AT MOLDE, NORWAY.

DELIGHTFULLY situated on the shores of the fjord of the same name, sheltered from the cold north winds by well-wooded hills 1500 feet high, nestling among trees of species which grow hardly anywhere else in Norway, with a milder climate than the majority of places in the same latitude, in front the ever-changing sea, studded with picturesque islands, and beyond this the splendid chain of the Romsdal Alps, stretching from east to west as far as the eye could reach, sending their countless peaks high into an atmosphere as clear and blue as an Italian sky, the little town of Molde, with its population of some 1700, appeared in August of this year (a month sunless and wet in Great Britain) indescribably charming. Yet there is a dark spot even in Molde,—a leper hospital capable of holding 160 patients, an indication that this loathsome and well-nigh hopeless disease, though steadily diminishing in the number of its victims, must still be regarded as endemic. And, indeed, a map prepared some years ago by Dr Kaurin, the distinguished physician of the Hospital, showing the distribution of lepers throughout Norway, plainly exhibited the fact that two spots present the greatest assemblage in the smallest area, the neighbourhoods respectively of Molde and of Bergen, though the reduction has been going on in recent times here as elsewhere.

At the west end of the town, in well-wooded grounds which slope gently up from the road running parallel to the fjord, and commanding an extensive view, is placed the Leper Hospital for the district of Reknaes, including Molde and Romsdal. It was originally founded in the year 1713, and was principally maintained from the revenues of lands which had been given or bequeathed to it. In 1861 it was replaced by the present and much larger one, built at the expense of the State. It is a two-storied building of wood, consisting of a central block with five wings, one of which is a neat and airy chapel, where service is held once a fortnight. The lepers are treated gratuitously, the expense being defrayed mainly by the State, but partially from the revenues of the old hospital.

The wards are spacious and well-ventilated, the male cases are placed in one wing, the female in the other, while the executive department is disposed in the central part. The education of the younger lepers is not neglected, for there is a school with all necessary appliances for teaching. The older inmates are occupied in spinning and in knitting the Norwegian wool. There was no over-crowding of the wards, and the national cleanliness was not less evident here than elsewhere. The number in hospital at the date of our visit was 79. In 1856 the total number of lepers in Norway was estimated at 2900, and since then this has steadily diminished, so that now it is calculated that they probably do not exceed 1000. The number in hospital, too, has varied to a considerable degree. In 1856 there were but 200, but in 1866 this had risen to 800, the highest it has attained. With the decline of the complaint throughout the country, the number in hospital has also lessened, so that now there are only about 500 availing themselves of the advantages of treatment and residence there. Removal into hospital benefits the patients themselves; they are there kept clean, their ulcers are carefully dressed, useless limbs or such parts as are the source of pain or distress are amputated, and thus their lives are prolonged and made more endurable. It at the same time is advantageous to the general population, by reducing the number of foci from which the disease may make fresh inroads, or attack new victims. Hence isolation has distinct merits of its own. Yet the decrease in leprosy in Norway cannot wholly be ascribed to isolation. In Iceland leprosy was at one time extremely widespread; there are now only about ten in the whole island, though isolation has never been carried out, nor has the condition of the people materially, if at all, improved. The influence of heredity *per se* is equally difficult to fathom. In the case of children their mode of life is essentially the same as that of their parents, while they are in more or less intimate and prolonged contact with them, still not all the offspring suffer even in instances where both parents are affected.

Dr Kaurin is a full believer in the communicability of leprosy. There are, however, some curious points with respect to this. In Norway no nurse nor any medical man in attendance on lepers has, so far as is known, ever yet contracted the disease, nor have any experimental inoculations on animals been successful. Physicians have inoculated themselves, their colleagues, and numerous healthy persons, introducing the leprosy material in the form of portions of the nodules under the skin, but no one so treated has yet become a leper. To communicate the disease two factors would appear necessary,—one, prolonged or very intimate contact with a leper, as by sleeping in the same bed, wearing the clothes of an affected person, etc.; the other, a peculiar condition of the system, probably induced by habitually partaking of a bad or at least unsuitable dietary. Mr Jonathan Hutchinson, as is well known, holds strongly

that "fish is probably the vehicle by which the poison of leprosy gains access to the human body."¹ Medical men have not yet generally adopted his view, but from several conversations which I held with intelligent Norwegian peasants as to their opinion of the cause of leprosy, it seemed evident to me that they were inclined to think that fish had at least something to do with its origin or spread. If such a view is, even to a limited extent, correct, there can be no true ground for any leprosy scare as far as this country is concerned. There is no reason to fear that, under existing conditions, leprosy will again obtain a hold in Great Britain. A physician who holds strongly the view that leprosy is non-communicable once visited a Norwegian leper hospital, and there ventilated his opinions freely and decidedly. "Will you then occupy a bed alongside one of these patients?" asked the doctor in attendance. "No," replied the anticontagionist, thus put to the proof after a fashion he did not anticipate, "I have a wife and children at home depending on me." He had not, and perhaps one could scarcely expect him to have, the courage of his opinions.

Ever since the discovery of the bacilli peculiar to leprosy by Hansen in 1874, a deep and increasing interest has been manifested in these micro-organisms. Dr Kaurin has a thoroughly equipped laboratory in the Hospital, in which he has carried on important investigations into the bacteriology of leprosy. He has recognised the resemblance which the bacilli bear to those of tubercle, though smaller and heaped up into groups instead of being scattered. He thinks, also, that they are contained within the cells, not outside them, as Unna has stated.² Dr Kaurin has found the bacilli in the spinal cord, and occasionally in the cerebrum, but it is rare for them to be met with in the central nervous system. He has examined the earth, water, and food with negative results; and on one of the days on which I visited the Hospital, I found him setting up an apparatus which he had just received for examining the air. When the difficulties which surround the subject are kept in mind, the wonder is that the bacilli should ever be discovered in these media unless by a fortunate accident; the traditional needle in a haystack is, compared with this, a comparatively simple matter. He has not succeeded in cultivating the bacillus, and has come to the opinion that perhaps there is some intermediate stage through which it passes, or some undiscovered host in whom it undergoes a further development not yet unearthed. I observe that Dr Beaven Rake has enunciated a similar theory.³

The incubation period of leprosy is almost certainly a long one.

¹ *Archives of Surgery*, vol. i., Appendix, "The Leprosy Problem," p. 11, 1889.

² "Wo liegen die Leprabacillen?" *Deutschen Med. Wochenschrift*, No. 8, 1886.

³ *Report on Leprosy and the Trinidad Leper Asylum for 1889*, p. 7. Port-of-Spain, 1890.

Dr Kaurin stated it as probably from three to four years. He has never seen a case in very young children, in cases even where the parents were lepers. The disease sometimes manifests itself as early as at the age of 5, more commonly between 15 and 20, but it may declare itself at any age. Thus he showed me a patient 70 years old, affected with the non-tubercular or anæsthetic form, who had suffered from the symptoms for only two years. The maculæ were well-marked on the flanks—the centres, as usual, after a time being anæsthetic, the peripheral portions hyper-æsthetic, while on the lower dorsal region were leucodermic spots, which had resulted from the absorption of previous maculæ. The duration varies, in some instances as much as forty years; more usually they succumb to it in from nine to fourteen years. A frequent termination is phthisis; and, indeed, the resemblance between phthisis and leprosy has been pointed out by more than one observer. The precise diagnosis of leprosy, even in a country where it is prevalent, is not by any means so easy as would at first sight appear. An old woman was in hospital for observation. She had on the limbs and neck large brownish-red erythematous blotches, each irregularly rounded, and presenting considerable resemblance to a macular syphilide. Yet in this case syphilis could, Dr Kaurin assured me, be absolutely excluded. This condition had lasted one year. There was no anæsthesia, or if any, the merest trace in the centre of some of the patches. A small portion of skin removed from above the eyebrow, so frequently one of the earliest situations for leprosy to manifest itself, was found not to contain bacilli. The disease in this instance was probably a chronic erythema multiforme.

The tubercular form is by far the more common, yet in hospital the number of anæsthetic cases nearly balanced the tubercular. When the mixed form is met with, the tubercular usually precedes the anæsthetic in point of time, but this is occasionally reversed. The tubercular exhibits the greatest variety in the appearances. The colour of the tubercles as seen fluctuated between a pinkish hue and a brownish-red tint. Sometimes much, at other times little, pigmentation followed the absorption of the nodules. Ulceration and caries in place of atrophy succeed. The cartilages of the nose are destroyed, and an aspect not at all unlike that which may be occasioned by tertiary syphilis is assumed, or the skin becomes tightly bound down over the facial bones, acquires a bluish-lead hue, and the general effect is extremely ghastly. The cornea is specially apt to become the seat of tubercles, sight is usually lost, and the optic nerve may be involved secondarily. Sometimes a mere stump remained, in other cases the corneal ulcer healed, and the eyeball, shrunken and sightless, was still in place. Tubercles do not readily form on the scalp, hence the hair there continues, but the eyebrows in both sexes and the beard in men either wholly or in great part fall off. Febrile accessions are common, due in some cases to the eruption of fresh tubercles, in others to the in-

vasion of phthisis. There are occasional complications; thus in one woman I noticed *aene rosacea* in conjunction with leprous tubercles on the face. Caries of the bones of the feet may occur. Dr Kaurin showed me some most interesting specimens in his museum; one was a foot in which only the *os calcis* and the atrophied remains of some of the phalanges were distinguishable. Leontiasis was well-marked in some; in others, also examples of tubercular leprosy, it was scarcely discernible. Though present to a slight extent, in no case was leucoderma at all a marked feature, and "the leper white as snow" was not recognisable.

The non-tubercular or anæsthetic type is perhaps the more interesting of the two. In some cases maculæ, which are at first hyper-, and later an-æsthetic, are the earliest symptoms; in others the anæsthesia seems to be the first thing to attract notice. It is a well-marked phenomenon, so that amputation can be performed on parts where it is pronounced without chloroform. A noticeable feature is the atrophy of the thenar and hypothenar muscles, the contraction of the flexor tendons of the fingers, and a gradual digital osseous wasting. This latter begins in the distal phalanges, which become thinner and thinner till they disappear. Then the second phalanges are affected, and undergo a similar destructive change. Sometimes the pulp of the finger remains with the nail attached on the shortened digit; at other times the finger looks as if amputation had been skilfully performed, and a well-shaped stump results. Severe neuralgia, usually of the sciatic, is common, only to be relieved by the removal of the limb. The tendon reflexes are abolished when the anæsthesia is fully established. Perforating ulcer of the foot not unfrequently occurs; this is also seen in locomotor ataxy, and the neuralgia in leprosy may also be contrasted with the lightning pains of tabes. Ectropion also occurs, but its disastrous effects on the eye can be much lessened by blepharoraphy. Dr Kaurin frequently performs this; he makes the edges of the eyelids raw on their inner third, then stitches them together; the *puncta lachrymalia* are in this way obliterated, but no *stilleidum* follows.

The treatment of leprosy in the Reknaes Hospital consists mainly in relieving symptoms. Dr Kaurin has tried *ichthyol*, but without definite result; and the same may be said with regard to *ehaulmooghra* oil. Patients as a rule are too late of coming in for treatment. That much might be done were cases received earlier was proved by the improvement in two instances which had offered themselves soon after the commencement of the complaint. One of these was a woman, aged 19, admitted four years previously. She had then suffered for one year from the anæsthetic form, with many maculæ on her shoulders. Under good diet, baths, and a generally well-directed hygiene, all these had disappeared. She looked cheerful and plump, with a mere trace of anæsthesia persisting on the hands. The other was a boy, aged 14, who had had the

tubercular form for five years. He, too, had now no tubercles, their situation being represented by slightly puckered scars. Both were in a fair way towards complete cure. Melancholy as was undoubtedly the state of many of the patients, one could not help mentally contrasting their condition with that of those who could not have the advantages of skilful management in hospital.

NOTES

ON THE

SUCCESSFUL TREATMENT OF OBESITY.

THE *raison d'être* of this brochure requires a word of explanation, since I make no claim to any special acquaintance with the measures best suited for the reduction of *embonpoint* either in men or women. My friend of more than twenty years' standing, Dr Turnbull of Coldstream, had invited me to spend a couple of days under his most hospitable roof. I had not failed to observe for some time past that there was a distinct process of shrinkage in bulk going on in Dr Turnbull, and had indeed watched the diminution with no small degree of anxiety. When, however, I quoted Sir Douglas Maclagan's well-known lines—

“Guidman, are thae some borrowed claes,
An' are your ain awantin' ?
Or ha'e ye fa'n awa frae these ?
Is this the wark o' Bantin' ?”

Dr Turnbull assured me that there was no ground for concern on his account. He had tried Mr Banting's plan in former years, but it did not suit him. He certainly did get thinner, but his health, his spirits, and his enjoyment of existence on the convex surface of this little planet all failed, and he felt himself, and his friends feared even more strongly, that if the procedure were to be persisted in for any time, his premature departure into the unknown was inevitable. He had now, he informed me, fallen on a much more thorough method, one which while it was steadily decreasing his weight, was at the same time rendering him more active, and increasing his zest for life. He told me that many of those who had seen the improvement had urged him to publish the details of the system which had done so much for him, but he had an invincible objection to appear in print. He offered, notwithstanding, to supply me with notes of the plan, if I would prepare them for insertion in the *Edinburgh Medical Journal*. As will be seen from what follows, given almost in Dr Turnbull's own language, another besides himself has already benefited.

James Downie, now aged 52, left Berwickshire for Leicestershire twenty-three years ago. He was then in good health. His habits were active, and he was strictly temperate. Six years subsequently he had an acute attack of gout, and was confined to bed for at least a month. From four to six times a year he had similar attacks, usually having a duration of two or three weeks. A couple of years later he had an excessively severe seizure, which necessitated his stay in bed for six months. He went, after he became convalescent, for six weeks to Buxton, where he greatly improved, but on the day after his return to Leicestershire he had a fresh outbreak. About fifteen years since he became utterly incapacitated for work, and had to resign his situation of stud-groom. He was now more or less confined to bed, or at best could not walk save with the aid of crutches. In 1885 he returned to Coldstream, but was seldom able to rise from his couch. From November 1887 to December 1889 he was constantly confined to bed and utterly helpless. During his illness he had consulted several physicians, and had taken an immense quantity of medicine. He believed that in the end of 1889 he weighed about 22 stones, and judging from his appearance, etc., his estimate was probably pretty nearly correct.

Reverting to Dr Turnbull's own case, in consequence of suffering from great dyspnœa, Dr Turnbull consulted Dr G. W. Balfour in June 1889. He then weighed 22 stones. He was advised to change his mode of living, and to place himself on a regulated dietary. Acting on his advice, Dr Turnbull says—"I breakfasted at nine as usual, took an egg, half a slice of toast, and a small cup of tea. At two a small basin of soup with a piece of toast. Dinner was at eight, when I had a little fish, the wing of a chicken, or an equivalent in mutton, with some green vegetables, and a very small bit of cheese with biscuit. After dinner I had half a glass of whisky in half a tumbler of water, and one cigar, partook of no soup nor pudding of any kind with dinner. Under this system I steadily lost weight, so that on the 5th of December last I found that I weighed 17 stones 10 pounds. I gave up drinking any fluid during the day, and my weight at present (in the middle of September 1890) is 15 stones 7 pounds—thus I have lost in the course of about fifteen months 6 stones 7 pounds.

"Having thus so greatly benefited myself, I felt very sorry to see poor Downie so utterly helpless, and therefore proposed to him that he should try my plan of diet. He readily agreed to follow my advice, being encouraged by seeing for himself the difference in my size. He adopted the method in December 1889, when he weighed, according to his own estimate, 22 stones. His exact weight now is 16 stones 10 pounds. From being quite unable to assist himself in any way, he can now walk about with the help of a stick. He had been a great water drinker, so he suffered very considerably for nearly a month from thirst, but he resolutely

refrained from yielding, and now he feels no desire for liquids. In nearly every detail his diet was such as I had adopted, only he had neither whisky nor tobacco.

"When, by the urgent advice of the late Dr Warburton Begbie, I gave up the Banting system of reducing corpulence and resumed my usual diet, I very rapidly became heavier than before. I am satisfied now that the easiest way to lessen obesity with safety is to reduce the quantity of food, and especially of drink, to a minimum. A moderate amount of butter and fat should be taken daily. Sugar and starch ought to be avoided as far as possible, while potatoes and bread must be refrained from absolutely. Vegetables, however, are not contraindicated, but those which are most suitable are onions, leeks, spinach, stewed celery, cauliflower, brocoli, Brussels' sprouts, asparagus, young cabbages, and such like. From much observation, I am quite confident that fresh salmon, properly cooked,¹ with no lobster or other sauce than the water in which it has been boiled, and eaten without potatoes or other objectionable vegetables, in moderate quantity is *a perfectly digestible fish*, notwithstanding all that has been written to the contrary.² An occasional warm bath is to be recommended, and some such laxative as a seidlitz powder may be prescribed along with the diet I have indicated. *Moderate* exercise only should be taken."

The plan of treatment which Dr Turnbull and James Downie have found so beneficial is one not altogether unknown, though the rationale may be more difficult to explain. Thus Dr Mitchell Bruce says,³ "A copious supply of water increases nutrition up to a certain point, especially the deposit of fat, and is therefore extensively employed in hydro-therapeutics." And again Dr Thomas King Chambers remarks,⁴ "Where heart disease is

¹ Salmon, however, is seldom properly boiled, save on the banks of the river Tweed, or by those who are acquainted with the plan of treating the fish before boiling, and of cooking it, which prevails there. The fish, as soon as possible after having been caught, must be "crimped," that is, it must be split up longitudinally along the back, then cut crosswise into pieces of just such a size as to form a portion suitable to help to each guest. When the fish is to be cooked, the water in the fish kettle, to which twice as much as two conjoined hands can lift of salt has previously been added, is brought to the boil and the pieces of fish put in, arranged upon the drainer just as they are afterwards to be placed upon the dish. The water is again brought fully to the boiling point, and kept so assiduously by the cook for five minutes. At the termination of that period the fish-kettle is removed from the fire, and the fish taken out upon the drainer. If these details are attended to, the salmon will be boiled to perfection, and will be found not only perfectly digestible, but possessing a delicacy of flavour not brought out by any other method. To boil salmon whole, as is frequently done, is simply to do an injustice both to the fish and to the person who is to partake of it.

² Even Dr Burney Yeo, in formulating some rules of dietary in obesity, which correspond on the whole pretty closely with those laid down by Dr Turnbull, says, "Eels, salmon, mackerel, are best avoided."—*Food in Health and Disease*. Cassell & Co., 1889.

³ *Materia Medica and Therapeutics*. Sixth edition, 1888, p. 151.

⁴ *A Manual of Diet in Health and Disease*, 1875, p. 342.

complicated with obesity, especially if the fat is accumulated in the chest, the enforcement of a dry diet is still further to be viewed as imperative, inasmuch as it contributes powerfully to the reduction of the hypertrophied adipose tissue." In all cases a most important point would seem to be the separation of the ingestion of solids and of liquids in regard to time. Thus any liquid should be taken in the interval between meals, and not at the time of or along with solid food. The observation of a dry diet contributes greatly to the comfort of obese patients, and, as has been seen, is in itself curative.

*Dr. Cairdner
with best regards from West*

A LETTER

TO THE

RT. HONBLE. LORD ABERDARE,

Chairman of the Managing Committee

OF THE

HOSPITAL FOR SICK CHILDREN,

BY

CHARLES WEST, M.D.,

Founder of the Hospital, and for twenty-three years its Senior Physician.

LONDON :

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c

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55, HARLEY STREET, W.
October 15th, 1887.

MY LORD,

I took the liberty, on the 1st of August last, of addressing a short letter to your Lordship, in which I ventured to express a doubt as to the expediency of some of those proposals which are embodied in the last Report of the Managing Committee of the Hospital for Sick Children, and which were adopted with acclamation at the Anniversary Festival in May.

On considering the subject carefully, the questions which those proposals involved, seemed to me to be too important to admit of their adoption or rejection without the most careful inquiry.

I therefore addressed, either in English or in French, the subjoined questions to the Senior Medical Officers of all the general Children's Hospitals in Europe, eighty-one in number, and beg leave to submit for your consideration as Chairman, and for that of the other members of the Managing Committee, the answers which, down to the present time, I have received from fifty. The answers, which are given verbatim, are tabulated for convenience of reference, and will at any rate enable the Committee to come to a conclusion, with a knowledge of the subject which I venture to doubt whether they hitherto have possessed.

QUESTIONS.

1. What is the number, sex, and age of all patients received into the hospital annually ?
2. What is the limit of age, above and below which patients are not admitted ?
3. If children under two years old are admitted, are there any restrictions on their admission ?
4. If they are admitted, are they placed in a separate ward, or are they distributed through the general wards ?
5. What is the mortality under two, and what at other ages ?
6. Is Hooping Cough generally admitted ? If so, is there a Hooping Cough ward, and what are the limitations of admission, and what is the mortality at different ages, of Hooping Cough cases ?
7. Is there a special ward for Diphtheria cases, or are they distributed through the general wards, or is each case as far as possible isolated from all other cases of Diphtheria, as well as of other diseases ?
8. Is there an accident ward ; or are accidents, as fractures, burns, &c., admitted generally on application, or are they sent to the general hospital of the town ?
9. What provision is made for the reception of cases of Scarlatina and Measles and their sequelæ ? Are there separate wards for them ?
10. To what extent has their admission led to the spread of those diseases among the other patients in the hospital ?

It is proposed to open a " Special Ward for Children under two years of age," the great reason assigned being " that it is certain that multitudes of infants suffering from simple atrophy have to be refused admission, and are of necessity inadequately treated as Out-Patients, who, if taken in for a time, could be saved." This proposal was sure at once to enlist the sympathy of every mother. It may be doubted, however, whether either mothers or governors are prepared to acquiesce in a mortality of 41.5 per cent., which is the outcome of the returns furnished by 26 hospitals, that have given details sufficient to admit of being tabulated ;

while that of children above two, as deduced from 24 of those institutions, is 13.0 per cent. Even this number by no means represents the worst results, for there are hospitals perfectly well managed, in which the mortality under two, amounts to 40, 50, 70, and even 80 per cent. This, too, in spite of the infants having wet nurses, or of their mothers being admitted with them, as in the hospitals of St. Petersburg and Vienna, and also at Charkow.

Infants received into all the Foundling Hospitals on the continent are immediately provided with wet nurses, and all whose health admits of it are at once sent into the country to wet nurses. The figures given with reference to the Foundling Hospital in Paris, represent the mortality among those only, who were so ailing as to necessitate their being placed in the infirmary. All of them, however, who can suck are provided with wet nurses; those who cannot suck are brought up on asses' milk; while the very feeble are treated like young chickens, and are kept in the artificially high temperature of a "*couveuse*," a sort of stove—a baby-hatching machine.

In spite of all these precautions, which it certainly would not be possible to imitate in Ormond Street, the mortality under two, in the infirmary of the Hospice des Enfants Assistés, amounts to 52 per cent. The fact, too, that of 124 infants suffering from atrophy, or "*athrepsie*," as it is termed by the French, 114 died in the infirmary, only 10 recovered, is a striking commentary on the sentence which I have quoted from the Report. This result, though doubtless unusually discouraging, is yet no matter for wonder to members of my profession, since we know, thanks very much to the researches of my lamented friend, the late Professor Parrot, that in the bodies of children who perish thus there are found ulcerations of the stomach, changes in the substance of the brain, of the liver, and of the kidneys, and in the very composition of the blood itself, such as are met with in no other condition.

The mere collection of a number of infants within the walls of an institution is in itself a source of danger. In illustration of this may be mentioned, on the authority of Dr. Blasi, the Director of the Foundling Hospital in Rome, that the

mortality of the infants fell from 63 to 36, and at last to 16 per cent.; in exact proportion as more children were sent to the country, fewer retained in the building, where yet all were suckled.

Even at present, the number of children under the age of two admitted into the Children's Hospital in 1886 was 211 out of 1094, or 19·3 per cent., though the laws provide only for their exceptional admission; while of 23 hospitals in which no such restriction exists, only 4761 out of 28,587, or 15·5 per cent., were below that age. The Tables, on the preparation of which scanty care has been bestowed, do not enable one to ascertain the mortality under two; but it is noteworthy that of six cases of Marasmus (another name for atrophy) admitted at ages which are not stated, all died.

It is, therefore, I think, not unreasonable to revive the regulation which existed during my tenure of office, and on the importance of which I have insisted at page 48 of my book on Hospital Organization; which, while leaving the admission of children under two, as of other exceptional cases, to the discretion of the medical officers, requires an entry of such admission, with the reasons for it, to be laid before the Managing Committee at each meeting.

Cases really calling for admission will, for the most part, be surgical, such as harelip, birth-marks, and some distortions or malformations needing early interference for their cure. Children coming in in these circumstances are almost always in good health, and remain for but a short time, and for the most part, as the physician to the Rotterdam Hospital truly says, such cases usually do well.

Tables III. and IV. represent the practice of different hospitals with reference to the admission of Hooping Cough. The general opinion is decidedly opposed to it, since only 10 admit it and 39 refuse it admission. At the Evelina Hospital, however, as the Tables show, a Hooping Cough ward has been recently opened, and 54 cases were received last year. The medical officers speak of its results with much satisfaction. The existing isolation wards in Ormond Street were intended for the reception of any special

case of that as of other contagious diseases, subject to the same regulation as already referred to with reference to children under two. If they do not suffice, an additional small isolation ward may be needed. Between that, however, and the opening a special ward for the general reception of Hooping Cough, there is immense difference, and it is to this latter proposal that I venture to demur. I do so because, while in its milder forms it is of little import, in its severer it is most perilous ; and for such severer cases, as well as for Hooping Cough occurring in the wards of the hospital, a small room with three or four beds would suffice. Even in the large Prince Paul Hospital at St. Petersburg, two small rooms, with two beds in the one and four in the other, are regarded as sufficient, though the annual admissions of patients vary from 1600 to 2000.

Moreover, 41·2 per cent. of all cases of Hooping Cough, according to the statistics of 1367 cases which I collected, or 48 per cent. according to Dr. Unruh of Dresden out of 1952, occur under two years of age ; and further, 41·2 per cent. of all deaths under the age of 12 from Hooping Cough occur under the age of two. Dr. Unruh, out of a total of 134 deaths under 12 from Hooping Cough, found 67, or 51·5 per cent., under two ; while Dr. Ranchfuss of St. Petersburg writes to me : “ Age has the greatest influence on mortality. The greatest is under two, after four it lessens rapidly.”

The objections, then, already stated to the general reception of children under two apply here with double force.

Tables V. and VI. illustrate the practice of different hospitals with reference to the reception of Diphtheria, for which the Report, adopting the views of the Medical Staff, insists on the establishment of a Special Ward. It is not to be wondered at if small hospitals with limited space and small funds, avoid the reception of contagious cases which they are unable to isolate. The hospital at Glasgow, which receives Diphtheria only exceptionally, the East London Hospital and that at Bristol, are the only hospitals of any size admitting Diphtheria, which do not make special provision for its reception. The practice at Bristol can scarcely be appealed to in evidence, since that hospital also receives adult women.

Nothing is more remarkable than the different returns from different hospitals, showing the great diversity in the prevalence of the disease in various localities. Thus, at Manchester, out of 1068 patients, there were only 6 cases of Diphtheria; at Liverpool, with 1088, only 7; at Aberdeen, with 355, only 1; at Berne, with 528, 7; while at Dresden there were 928 out of 2760. In London itself, too, there are also striking differences. At the East London Hospital, out of 950 patients, there were 22 cases of Diphtheria; at the Evelina, 25 out of 454; and at Ormond Street, 51 out of 1094; as against 20 in 1885 and 12 in 1884. This, however, cannot be attributed to any special prevalence of the disease, as the mortality from Diphtheria in London was lower in 1886 than in any previous year since 1881. In the last three months of 1886 it was 0·17 per 1000 living, having been 0·15 during the previous nine months. Neither was there any special prevalence of the disease in the immediate neighbourhood of the hospital; for taking the nine registration districts in the centre of which the hospital is situated, with a population of 150,368, the mortality from Diphtheria was 0·16 per 1000 living; or much less, indeed, if some of the 18 deaths from Diphtheria in the hospital are omitted; the cases most probably not having all come from its immediate neighbourhood. In examining the necessity for better accommodation for cases of Diphtheria, an increase of their number, due to causes outside the actual necessities of the surrounding population, must be left out of consideration.

The contagiousness of Diphtheria is undoubtedly smaller than that of either measles or scarlatina. It is nevertheless very desirable that patients suffering from it should be separated from other cases of illness. The arrangements for such separation appear to be most effectual at St. Petersburg, Dresden, Lüneburg, the two hospitals at Warsaw, and Geneva; less so at Basle, Munich, Rome, St. Joseph's Vienna; Munich, Stockholm and Bremen. There is not room in Ormond Street for the arrangements carried out at St. Petersburg and Dresden; but a separation of slight and convalescent from malignant cases is most desirable, while for cases in which

tracheotomy has been performed a separate small room should be provided. To be able to supply these most desirable improvements efficiently, however, in the comparatively limited space which the hospital can furnish, the scientific zeal of the medical staff must wait upon, and not overstep the needs of the adjacent population, or the resources of the institution. I confess that I should look forward with apprehension to the agglomeration of a number of cases of Diphtheria of different degrees of severity in one ward, how perfect soever might be the sanitary arrangements.

I doubt very much whether the special objects of the Children's Hospital would be promoted by the opening of an accident ward, or rather of two accident wards, the one for boys the other for girls. Fractures, burns and other accidents have nothing in them, nor in their surgical management, so distinct from the same occurrences at all ages, as to call for the establishment of separate wards, for the constant attendance of a night porter, and for all the additional expenditure which such wards would entail. It is quite true that, as Tables VII. and VIII. show, the majority of Children's Hospitals admit accidents, though their number is very small. Twenty-five hospitals furnish us with the data by which to judge how small that number is, for only 913 accidents, or 4·3 per cent., were admitted out of a total of 21,070 patients, and only in 3 out of 35, viz., Hospital Trousseau in Paris, St. Elizabeth's in Petersburg, and at Munich, are any special provisions made for their reception. The North-Eastern Children's Hospital indeed received 62 accidents in 1886, a number which amounts to 10 per cent. of the admissions; but that hospital is in the midst of a poor neighbourhood, and the nearest general hospital, the London, is distant between three and four miles. The position of the Children's Hospital is entirely different, for it is within a mile of five large general hospitals, King's College Hospital, the Middlesex Hospital, University College, the Royal Free, and St. Bartholomew's Hospitals, while the Great Northern is but a little further; so that the excellent reasons which exist for the admission of accidents into the North-Eastern Hospital, do not at all hold good in the case of Ormond Street,

and one is amply justified in saying that no necessity whatever exists for opening another refuge in that neighbourhood for children to whom accidents may happen.

A Children's Hospital, according to my reading of its name, implies, save in exceptional conditions, such as are present in the case of the North-Eastern, a hospital devoted to the ailments which either are peculiar to children, or on which childhood impresses special characters not seen in later years. To perfect the arrangements for cases of Diphtheria is a most legitimate object for those who have the management of the Children's Hospital to aim at. To open accident wards appears to me to be to ignore the real purpose of the institution, as it is most certainly to deviate from the intentions of those who took part in its foundation.

I did not know, when I had the honour of writing to you some weeks since, that for the past two years no case of Scarlet Fever nor of Measles had been admitted into the hospital. On applying to the Secretary for information, he replied that "those diseases never had been admitted, and that if a case of either occurred among the In-Patients it was at once packed off to the Fever Hospital."

For this deviation from the original purpose of the hospital, I find no other authority than a clause introduced, I know not when, into Rule III. (my copy bears date 1887), which mentions "certain infectious diseases" as excluding children from the hospital.

When the hospital was founded, Sir Thomas Watson, Dr. Latham, Sir James Clark, and Sir John Forbes were consulted on all medical questions, and on a question being raised in the Managing Committee in May, 1854, as to the expediency of receiving Measles and other contagious diseases, those gentlemen acted as assessors, and approved of the reception of such cases.

During the first twenty years of the existence of the hospital 1219, out of 9806 of all cases admitted, or 12·4 per cent., were cases of Scarlatina or Measles.

Now, inasmuch as 91 per cent. of all deaths from Scarlet Fever take place during the first ten years of life, and as the immense majority of all cases of Dropsy and of kidney

disease in early life are the immediate sequelæ of an attack of Scarlet Fever, it seems to me that the most grave consideration ought to be given to the question, before arriving at a decision in direct opposition to that of the founders of the hospital, and in spite of the existence of special provisions made in the construction of the new building for the reception and isolation of such cases.

The arrangements which existed for this purpose during my tenure of office were of necessity most defective. The Fever patients were lodged at the top of the building, and no separate staircase led thereto. Care, however, made up to a large extent for structural deficiencies; and I am certain that during the whole of that time no such spread of those diseases took place in the general wards of the hospital as to raise, either in the managing or in the medical committee, the question of refusing them admission.

So long as Scarlatina and Measles enter the Out-Patients' rooms, and their exclusion on the first occasion is impossible, an element of risk, against which no prudence can guard, will always exist. It could, of course, be greatly lessened by a regulation forbidding the Out-Patients' attendants and doctors from re-entering the hospital for some hours, or without changing their dress. Even then, however, the visits of the patients' friends will be a fruitful, and not only in my opinion, but also in that of all the medical officers of Children's Hospitals with whom I have communicated, the most fruitful source of contagion, and will necessitate the retaining always a Fever department, to which intercurrent cases may be removed.

It was the hope, possibly the dream, of those who co-operated in founding the Children's Hospital, that as it was the first ever established in this country, so it should serve as a model for all others which should be afterwards founded; and that from all the country round the philanthropist and the doctor should turn to the authorities in Ormond Street for guidance as to what to do, and what to abstain from doing.

I have no means of judging how far this high purpose was in the mind of the Committee when they resolved (pardon

me if I think somewhat preeipitately) to abandon this field of usefulness to the poor, and of instruction for the student.

It was, I believe, under the influence of the alarm caused by the sudden development of various eontagious diseases, as well as of Searlatina, in the general wards of the hospital in 1884, that the decision was come to, to refuse admission to all cases of Searlatina and Measles. The drainage of the hospital was at that time in so bad a condition as to neecessitate a subsequent very heavy expenditure, and the question is a difficult one, how far the development of the so-called zymotie diseases may have been dependent in this case, as it is known to be very often, on bad sanitary conditions.

I trust it may not be too late for the Committee to take this matter again into their serious consideration; to examine how far the risk of eontagion may be lessened, or done away with (except the inevitable danger of the introduction of contagious diseases by visitors) by structural alterations, and more stringent regulations. In doing this, it would be well to do, as was done in former days, and to call in the counsel of other eminent medical men, to help them and the medical staff to a right decision. If, after so doing, the Committee still come to the conclusion that the interests of the hospital, which are none other than the welfare of the poor, are best promoted by refusing admission to all infectious eases, I must be allowed to say that they should have the courage of their opinions, and should publiely announce their decision, and their reasons for it, and not coneceal either the one or the other, under the somewhat equivoeal announeement in the Rule which few see, and still fewer read.

Tables IX. and X. represent the praetice of 47 hospitals, of whieh 20 admit; 27 do not admit Scarlatina or Measles. In the two Paris hospitals (Nos. 13 and 14 in Table IX.), the separation of such eases is most imperfcet, and yet even this has greatly lessened the spread of those diseases. In Nos. 1, 4 and 7, 11, and 20, the spread in other parts of the hospital is absolutely denied; and in 2, 3, 5 and 10, and 19, the oocurrence has been very rare, and in 10 is said to have happened when there were no eases whatever in the Fever ward; a fact borne out by the experience of Stockholm (No. 19. in

Table X.), where 168 cases have occurred in seven years, Measles sometimes running through the hospital, and attacking all children who have not already had it. All agree that the most fruitful source of contagion in the general wards, is to be found in the visits of friends of patients; a danger impossible to avoid, though there is no doubt but that it might be lessened by some intelligent surveillance at visiting hours.

Among the English hospitals, the arrangements at Aberdeen (No. 1) and Manchester (No. 2 in Table IX.), and among the foreign institutions those at St. Petersburg (Nos. 4 and 13), and at Dresden (No. 11), at Frankfort (No. 17), and Warsaw (18 and 20), are the most perfect. The arrangements in Vienna and Zurich (Nos. 3, 6 and 10), are also very good; and from a careful examination of these, it becomes evident that by proper precautions, both in construction and administration, all risks of the general spread of Fevers to other wards can be reduced to a minimum, though the one great guarantee is the placing of Fever cases in a detached building, such as already exists in Ormond Street.

All minute precautions, however, give trouble, much trouble, and though by their observance the physician to the hospital at Zurich says, "*C'est grâce à ces règles, que nous observons consciencieusement, que nous n'eumes aucune épidémie de rougeole, de scarlatine, et de coqueluche à l'hôpital,*"* and the physician to No. 20 writes to me, "*L'admission des malades en question, n'a pas d'influence sur l'augmentation de ces maladies parmi les autres malades.*" The Gordian knot will always be found much easier to cut than to untie.

The only hospital among the 27 of those which refuse admission to cases of contagious disease, including Diphtheria, that has arrived at this determination after careful inquiry is the one at Basle, and the essay of Dr. Fahm† on the subject is a model of patient investigation and careful inference.

In the fifteen years from 1870, 324 children sickened of

* *De l'Infection dans les Hôpitaux, et spécialement dans les Hôpitaux d'Enfants, par le Docteur Oscar Wyss.*

† *Hausinfectionen im Kinderspitale zu Basel, 8vo. Stans, 1887.*

some contagious disease or other contracted in the hospital out of a total of 4568 admissions.

That is to say, of Measles 33; or 0.72 of total admissions.

Scarlatina	80; or 1.75	„	„	„
Diphtheria	68; or 1.49	„	„	„
Erysipelas	68; or 1.49	„	„	„
Hooping Cough	34; or 0.74	„	„	„
Chicken Pox	33; or 0.72	„	„	„
Typhoid Fever	8; or 0.17	„	„	„

These numbers are perhaps not so formidable as some may have expected; but be that as it may, their import is somewhat lessened by the fact that such cases were not in a separate building, but at the top of the house, that erysipelas occurred spontaneously in the hospital; a fact which of itself tells against the salubrity of the institution, and further by the defects of construction admitted to exist in the communication with each other of the ventilating shafts in all the wards, and by the evidence of an approach to laxity in the regulations. Still this essay remains the strongest impeachment of the admission of contagious diseases into a children's hospital; *unless they are placed in a completely isolated building*. Against the inferences to be drawn from the experience at Bâle;—and the results of the exclusion of Fevers from admission to that hospital, have not yet been put to the test of time—may be placed the remarkable statement of Dr. Andrews, the Senior Physician to the Edinburgh Children's Hospital, who says, in a letter to me, "It was not found that Fever broke out more frequently in the general wards, when we had our Fever wards than it does now."

I shall doubtless receive additional replies to my inquiries, but circumstances prevent my waiting for them, and the facts at present given are, I think, sufficiently numerous to warrant conclusions being drawn from them.

I beg leave, therefore, respectfully to suggest—

1st. That no special ward be opened for children under two years old; but that the old regulations with reference to their admission,* be revived and acted on.

* These regulations, and the reasons for them, are fully stated in my book on Hospital Organization, pp. 48-50.

2nd. That for the future the Statistical Tables of admissions to the hospital show the age at death of all In-Patients, as well as the diseases of which they died.

3rd. That the admission both of Hooping Cough cases and accidents be treated likewise as exceptional, and subject to the same regulations as those which apply to children under two; and that no special accident ward be established.

4th. That in order to provide for the safe admission of occasional cases of complicated Hooping Cough, a small room, containing four or six beds, be set apart for that purpose.

5th. That, if, as is probable, it is impossible to accommodate Diphtheria patients in a separate building, a portion of the top floor either of the existing, or of the new building, be utilized for it, containing in non-communicating rooms, six beds for mild and convalescent cases, four for severe cases; and four for cases in which tracheotomy had been performed. These last should be placed two in each small room, which might communicate. There would be no necessity for the isolation of the nurses of Diphtheria cases, as of those who take charge of Fever patients.

6th. Before it is finally determined to exclude Fever cases from the hospital; and this the rather, since their exclusion from the Out-Patients' room is impossible, I would suggest—

(a.) The strict observance in the Out-Patients' department of the arrangements made in the construction of the hospital for the separation of Fever cases—arrangements which are probably susceptible of improvement, and the exclusion of the Out-Patients' attendants from the wards of the hospital.

(b.) The absolute separation of all nurses and attendants in the Fever block from all other parts of the hospital; the arrangement of a lift for the supply of food and medicine, and of a telephone for communication when necessary with the Superintendent's office.

(c.) The placing the medical charge of the Fever block under the care of a special officer, possibly one of the Out-Patients' physicians, in rotation every three or six months. If he at the same time has charge of Out-Patients, he should not visit the Fever cases until after he had discharged his duties in the Out-Patients' room, and should not afterwards return to

the hospital. He should be required to leave his coat and hat at the entrance to the Fever block, and to put on a linen or other wrapper during his visits.

If, in any emergency, the House-Surgeon should be required to visit the Fever block, he should observe the same precautions.

By these means, I believe, the outbreak of Fevers in the hospital could be reduced to a minimum: absolute immunity cannot be looked for when we bear in mind that they break out in palaces as well as among the dwellings of the poor. I confess that their adoption would give trouble, I know that they will be unpopular; but our duty, it seems to me, is to grapple with difficulties, not to evade them.

Ten years ago I called the attention of the Committee of the Children's Hospital to the extravagant expenditure of the institution, but with no results at the time, save that my endeavour lost me many friends, made me many enemies, though none of my statements were ever disputed.* It is now, however, some satisfaction to me to find that good has come, though tardily, out of efforts that seemed fruitless. In 1876, on the expenditure of which year I animadverted, 869 patients were admitted, and the cost of their provisions was £2298. 16s 6d; or £2. 12s 10d per patient admitted. In 1886, 1094 were admitted, and their provisions cost £1941. 18s; or £1. 15s 6d per patient: being a saving of 17s 4d per patient, or very nearly £1000 a year.

The points on which I have dwelt in this letter admit of differences of opinion more than did those which were raised on the question of the hospital expenditure. I have stated my own conclusions, but, at the same time, have given the data on which those conclusions are founded. Nothing, I trust, that I have said can wound anybody's reasonable susceptibilities; but after one has passed three-score years and ten, one learns to attach but small weight to what people may choose to say.

There are now but two things for which I care very much.

* All details concerning this will be found at pp. 44 to 48 of "Hospital Organization, with special reference to the Organization of Hospitals for Children," 12mo., London, 1877.

The one is, the welfare of the Children's Hospital, to which the energies of the best years of my life have been devoted. The other is, that when I have passed away, those to whom my memory will still be dear may hear my name sometimes mentioned with a blessing, as that of the Founder of the first Children's Hospital that ever existed in England.

I have the honour to be,

My Lord,

Your faithful servant,

CHARLES WEST.

To

THE RIGHT HONBLE. LORD ABERDARE,

*Chairman of the Managing Committee of the
Hospital for Sick Children.*

TABLE I.—HOSPITALS WHICH ADMIT CHILDREN UNDER TWO YEARS OF AGE.

HOSPITAL.	TOTAL PA- TIENTS	UNDER TWO YEARS.			ABOVE TWO YEARS.			REMARKS.
		NUMBER.	MOR- TALITY.	PER CENT.	NUMBER.	MOR- TALITY.	PER CENT.	
1. Foundling, Paris ...	—	854	451	52	—	—	—	All infants suckled. These figures represent those only who are taken into the Infirmary; not the numbers, nor mortality, of all who pass through the hospice, and many of whom are for only a day or two in the institution. Of 124 admitted with <i>athrepsie</i> , or atrophy, 14 recovered, 114 died.
2. St. Joseph's, Vienna ...	720	109	55	50·4	611	144	23·5	
3. Stettin ...	537	175 under three	67	39·9	362 above three	43	11·8	
4. East London ...	950	346	209	68·9	604	144	27·3	
5. H. Trousseau, Paris ...	3884	244	202	82·7	3640	580	15·7	
6. Dresden, 4 yrs. ...	2760	566	283	50·0	2194	453	20·6	
7. Rome, 15 yrs. ...	2941	—	—	50·0	—	—	—	
8. St. Elizth., St. Petersburg, 10 yrs. ...	5360	—	—	40·3	—	—	20·6	The total mortality was 26 per cent.—32 among medical cases, 15 among surgical. Total number, 765 died. Number at different ages not given, but under 2 yrs. said to be 50 per cent. “Circa la metà degli ammessi.” Unweaned children are taken in with their mothers or nurses. The greatest mortality is between 1 and 2.
9. Prince Paul, do. ...	1600 to 2000	—	—	35·0	—	—	13·0	
10. Basle, 5 yrs. ...	2089	398	122	30·6	1691	218	12·8	

HOSPITAL.	TOTAL PA- TIENTS	UNDER TWO YEARS.			ABOVE TWO YEARS.			REMARKS.
		NUMBER.	MOR- TALITY.	PER CENT.	NUMBER.	MOR- TALITY.	PER CENT.	
11. Rotterdam, 2 yrs.	254	—	—	—	—	—	—	Total mortality varies from 5 to 10 per cent. at all ages. Medical cases under 2, “suecombent presque tous.”
12. Berne, 2 yrs.	528	178	—	—	350	—	—	Total mortality, 65; or 12·3 per cent.
13. Geneva ...	239	76	18	23·7	163	7	4·3	
14. Brunn ...	119	26	—	—	93	—	—	
15. Lüneburg, 6 years	769	—	—	—	—	—	—	
16. Bolton ...	183	16	2	12	167	6	3·5	
17. Glasgow ...	1447	101	19	18·8	1346	107	7·9	Total Mortality, 18; or 16·5 per cent.
18. Bristol ...	523	35	4	11·0	488	31	6·3	Total Mortality, 73; or 9·4.
19. Manchester ...	1060	84	28	33·3	976	84	8·7	Admissions under 2 exceptional.
20. Leopoldstadt, Vienna	674	81	47	58·0	593	108	18·2	In separate wards with 4 beds. Many of cases very trivial.
21. Liverpool ...	1088	—	—	40·0	—	71	6·5	Mortality at all ages.
22. Derby ...	309	—	—	—	—	7	2·2	Mortality at all ages.
23. Birkenhead, 2 yrs.	568	100	23	23·0	468	29	6·0	
24. Stockholm, 7 yrs....	4074	256	—	48·0	—	—	—	Children under 1 not admitted. From 1 to 2 exceptional.
25. Heidelberg, 6 yrs.	678	97	—	—	581	88	7·9	Partly a Pay Hospital, and in case of paupers the commune pays. A large proportion of cases are chronic, and with no danger to life. Figures give mortality at all ages.
26. Frankfort, 1·4 yrs....	2690	879	334	38·0	1811	226	12·4	
27. Paris, Rue de Sèvres	5062	710	378	53·2	4352	894	20·5	None admitted unweaned. Children under 2 are placed as much as possible at one end of the room.

HOSPITALS.	TOTAL PA- TIENTS.	UNDER TWO YEARS.			ABOVE TWO YEARS.			REMARKS.
		NUMBER.	MORTA- LITY	PER CENT.	NUMBER.	MORTA- LITY.	PER CENT.	
28. Bremen ...	339	79	31	39.1	260	36	13.7	Mortality at all ages. Many children under 2.
29. Evelina, London ...	454	—	—	—	—	63	15.9	
30. Children's Department of Charité, Berlin ...	900 to 1000	—	—	72.0	—	—	20 to 22	
31. Zurich, 3 yrs. ...	698	217	67	30.4	481	68	14.1	
32. Paddington ...	320	—	—	34.2	—	—	9.5	
33. Belgravia ...	116	3	2	—	116	9	—	There is a slight discrepancy between the numbers given in the book of the Reports and in the Tables which accompany it. Numbers said to be too small for any estimate. Mortality at all ages. Admitted only with mothers, or relatives, up to 4 yrs.
34. North Eastern ...	618	92	—	55.8	526	—	8.2	
35. Edinburgh ...	649	68	23	33.8	581	51	8.7	
36. Oldenburgh ...	90	—	—	—	—	—	—	
37. Copenhagen ...	431	—	—	—	—	—	68	
38. Charkow ...	800	—	—	—	—	—	—	

TABLE II.—HOSPITALS WHICH DO NOT ADMIT CHILDREN UNDER TWO.

HOSPITAL.	TOTAL PATIENTS.	REMARKS.	HOSPITAL.	TOTAL PATIENTS.	REMARKS.
1. Munich...	826		7. Altona	146	
2. Hanover	244		8. Newcastle-on-Tyne	161	
3. Lausanne	239		9. Cassel...	140	
4. Warsaw (Jew's Hospital), 3 yrs.	977		10. Sheffield	142	
5. Belfast...	395		11. Countess Potocka's Hospi- tal, Warsaw	971	
6. Aberdeen	355				

TABLE III.—HOSPITALS WHICH ADMIT HOOPING COUGH.

HOSPITAL.	No. OF PATIENTS.	PROVISION FOR THEIR RECEPTION.	REMARKS.
1. H. Trousseau, Paris	3884	Very imperfectly isolated.	Plans for a special ward have been made, but money wanted.
2. Prince Paul, Petersburg	1600 to 2000	In two isolated wards, one with 2, one with 6 beds.	"Age," says M. Rauehuss to me, "has the greatest influence on mortality. The greatest under 2; after 4, lessens rapidly."
3. Geneva	239	7 in one isolated ward.	Will next year be in separate building.
4. St. Elizth., Petersburg, 10 yrs.	5366	In a separate ward.	Dr. Unruh, states that of 1952 cases in out-patients, 842 were under 2, or 48 per cent. 130 of these died; 67 or 51.5 per cent., under 1 yr.
5. Dresden, 4 yrs.	2760	88 cases. Are strictly isolated.	Special ward recently opened for it, of the use of which Medical Report speaks highly.
6. Evclina, London	454	54 cases, 9 deaths. Isolated ward.	No provision for isolation.
7. Bremen	339	5 cases; 2 died. Isolation ward.	No details given.
8. Rue de Sèvres, Paris	5062	100 cases; 28 died.	In pavilion for contagious diseases.
9. Berlin	900 to 1900	In general wards.	
10. Countess Potocka's Hos- pital, Warsaw	971	In separate ward.	

TABLE IV.—HOSPITALS WHICH DO NOT ADMIT HOOPING COUGH.

HOSPITAL.	NUMBER OF PATIENTS.	REMARKS.	HOSPITAL.	NUMBER OF PATIENTS.	REMARKS.
1. Stettin	537	1 case in 1886.	19. Cassel	140	
2. St. Joseph's, Vienna	720	2 complicated.	20. Rotterdam	122	
3. Berne	528	1 in 1885.	21. Basle, 5 yrs.	2089	
4. Geneva	239	7 placed in an isolated ward.	22. Munich	826	
5. Brünn	119		23. Hanover	244	
6. Lüneburg, 6 yrs.	759	Admits chiefly chronic cases.	24. Warsaw (Jews' Hospital) 3 yrs.	977	
7. East London	950		25. Birkenhead	339	
8. Belfast	329		26. Lausanne, 2 yrs.	445	
9. Aberdeen	355		27. Rome, 15 yrs.	2941	41 were received in 11 yrs., of whom 9 died.
10. Bolton	183				
11. Glasgow, 4 yrs.	1447		28. Stockholm, 7 yrs.	4074	
			29. Heidelberg, 6 yrs.	678	
12. Sheffield	142	Sent to Inver, in Con- tagious Hospital.	30. Frankfurt, 14 yrs.	2690	
13. Bristol	523		31. Zurich, 3 yrs.	698	Received quite excep- tionally.
14. Manchester	1068	Its reception quite exceptional.	32. Paddington	320	
			33. Belgravia	116	
15. Leopoldstadt, Vienna	674		34. North-Eastern	618	
16. Liverpool	1088	Neither as Out- or In-Patients.	35. Edinburgh	649	
			36. Oldenburgh	90	
17. Derby	309		37. Copenhagen	431	
* 18. Newcastle-on-Tyne	161		38. Charkow	800	

TABLE V.—HOSPITALS WHICH ADMIT DIPHThERIA.

HOSPITAL.	NUMBER OF PATIENTS	NUMBER OF CASES OF DIPHThERIA.	IN GENERAL WARD.	IN SEPARATE WARD.		REMARKS.
				TOGETHER.	ISOLATED.	
1. St. Joseph's, Vienna ...	720	115	—	One ward with 6 beds. Yes.	If tracheo- tomized.	Separation not effectual; and cases complicated with Measles and Scarlatina are not properly separated from others. The doing this is a contemplated reform. The arrangements at Dresden are most complete. Diphtheria and Scarlatina are in a detached building, of which each occupies half. No communication between two. Diphtheria contains 1 ward for cases with rash as quarantine ward, 1 for ordinary cases, 1 for malignant, 1 for tracheotomized, 1 reception and operation, 1 nurses' room. A chamber for employment of moist vapour. All offices, &c., quite separate in floor below from the Scarlet Fever part.
2. Stettin ...	537	125	—	Very bad	—	
3. East London ...	950	22	Yes.	cases arc.	—	
4. H. Trousseau, Paris ...	3884	—	—	Yes.	—	
5. Dresden, 4 yrs. ...	2760	928	—	—	Yes.	

HOSPITAL.	NUMBER OF PATIENTS.	NUMBER OF CASES OF DIPHTHERIA.	IN GENERAL WARD.	IN SEPARATE WARD.		REMARKS.
				TOGETHER.	ISOLATED.	
6. Rome, 15 yrs. ...	2941	—	—	Ycs.	—	In separate houses, with separate attendants. For bad cases, rooms with 1, 2, and 4 beds. No ward in hospital has more than 6 beds, and all can be isolated. In a detached building of two floors. Slighter in floor below—severe in floor above. As case improves it is moved down-stairs. Detached pavilion about to be built; but see remarks. Out of 203 tracheotomies in 15 years, 82 recovered, 121 died. Report not clear on arrangements. Contagious block, building.
7. St. Elizth., Petersburg, 10 yrs. ...	5360	—	—	—	Yes.	
8. Prince Paul, Petersburg	1600 to 2000	—	—	—	Ycs, in a measure.	
9. Basle, 5 yrs. ...	2089	230	—	In separate ward at top of house.	—	Diphtheria very rare in Manchester. Rarely more than one case in hospital at same time. There is not room for separation of different cases of Diphtheria.
10. Berne, 2 yrs. ...	528	7	—	—	—	
11. Geneva ...	239	10	—	In detached house.	—	
12. Manchester ...	1068	6	—	Yes.	—	Senior Physician always isolates each case. Moved into quarantine ward. Diphtheria rare in Aberdeen. In a separate house.
13. Leopoldstadt, Vienna ...	1218	184	—	In separate wing apart from all other cases.	—	
14. Liverpool ...	1088	7	Yes.	—	—	
15. Birkenhead ...	339	4	Yes.	—	—	
16. Aberdeen ...	355	1	—	—	Yes.	
17. Lüneburg, 6 yrs. ...	769	67	—	Yes.	—	

HOSPITAL.	NUMBER OF PATIENTS.	NUMBER OF CASES OF DIPHtheria.	IN GENERAL WARD.	IN SEPARATE WARD.		REMARKS.
				TOGETHER.	ISOLATED.	
18. Munich ...	826	46	—	In 2 separate wards at top of hospital. In 1 separate ward. Yes.	Slight and severe are separated.	Separate contagious block in course of construction.
19. Warsaw (Jews' Hosp.); 3 yrs. ...	977	36	—	—	—	Most of the cases broke out in hospital; for none are taken in except to be tracheotomized.
20. Stockholm, 7 yrs. ...	4074	122	—	Yes.	—	
21. Heidelberg, 6 yrs. ...	678	10	—	—	—	The isolation wards are at top of house—consist of one large and one adjoining smaller ward, and of two other small wards somewhat distant on same floor. Diphtheria is separated from Scarlatina—from Diphtheria complicating Scarlatina.
22. Bremen ...	339	18	—	Yes.	No.	
23. Evelina, London ...	454	25	In separate ward in building in hospital Seldom more than two in at one time.	—	—	The separation of isolation wards [is by a door on staircase.
24. Frankfort, 15 yrs. ...	2931	301	—	In a detached house.	—	No further details as to arrangement.

HOSPITALS.	NUMBER OF PATIENTS.	NUMBER OF CASES OF DIPHTHERIA.	IN GENERAL WARD.	IN SEPARATE WARD.		REMARKS.
				TOGETHER.	ISOLATED.	
25. Paris, Rue de Sèvres ...	5062	—	—	In a detached house.	—	If children have Scarlatina and Diphtheria, they are separated from the other diphtheritics, and two small wards are put aside for this purpose.
26. Berlin ...	900 to 1000	—	—	In separate ward.	—	
27. Zurich, 3 yts. ...	698	146	—	In separate ward.	—	
28. Paddington ...	320	9	Yes.	—	—	In small ward, opening out of general ward; and separate room.
29. North-Eastern ...	618	12	—	Yes.	—	
30. Edinburgh ...	649	—	Yes.	—	—	
31. Charkow ...	800	—	—	—	Yes.	Slight and severe cases are separated.
32. Countess Potocka's Hospital, Warsaw ...	971	—	—	Yes.	—	In contagious pavilion. Wards in it not communicating with each other. Separate nurses and doctors.

TABLE VI.—HOSPITALS WHICH DO NOT ADMIT DIPHTHERIA.

HOSPITAL.		NUMBER OF PATIENTS.	REMARKS.
1. Brünn	...	119	Received in some exceptional cases.
2. Belfast	...	329	
3. Bolton	...	183	
4. Glasgow, 4 yrs.	...	1447	
5. Sheffield	...	142	
6. Bristol	...	523	Sent to General Hospital, where provision exists for isolation.
7. Derby	...	309	
8. Newcastle-on-Tyne	...	161	
9. Cassel	...	140	
10. Rotterdam, 2 yrs.	...	254	
11. Hanover, 2 yrs.	...	465	
12. Lausanne, 2 yrs.	...	465	
13. Altona	...	146	
14. Belgravia	...	116	
15. Oldenburgh	...	90	
16. Copenhagen	...	431	

TABLE VII.—HOSPITALS IN WHICH ACCIDENTS ARE ADMITTED.

HOSPITAL.	No. OF PATIENTS.	No. OF ACCIDENTS.	IN SPECIAL WARD.	IN GENERAL WARD.	REMARKS.
1. St. Joseph's, Vienna...	720	25	—	Yes, in Surgical Wards.	
2. Stettin...	537	36	—	Yes.	Very slight, only one death.
3. East London ...	950	40	—	Yes.	Sixteen burns or scalds.
4. H. Trousseau, Paris ...	3884	—	Yes.	—	
5. Dresden, 4 yrs.	2760	76	—	Yes.	
6. St. Elizabeth's, Petersburg, 10 yrs.	5360	—	Yes.	—	All accidents, and all operation cases, are separated in the surgical wards from the chronic cases.
7. Basle, 5 yrs. ...	2089	100	—	Yes.	
8. Berne, 2 yrs. ...	528	46	—	Yes.	
9. Geneva ...	239	7	—	Yes.	Very slight.
10. Brunn ...	119	3	—	Yes.	
11. Lüneburg, 6 yrs.	769	24	—	Yes.	
12. Bolton ...	183	—	—	Yes.	Statistics mixed up with those of General Infirmary, of which it forms part.
13. Glasgow, 4 yrs.	1447	36	—	Yes.	
14. Bristol ...	523	27	—	Yes.	
15. Leopoldstadt, Vienna	1218	80	—	Yes.	
16. Liverpool ...	1088	29	—	Yes.	No severe cases received.
17. Derby ...	309	—	—	Yes.	
18. Cassel ...	140	—	—	Yes.	

HOSPITAL.	No. OF PATIENTS.	No. OF ACCIDENTS.	IN SPECIAL WARD.	IN GENERAL WARD.	REMARKS.
19. Birkenhead, 2 yrs.	339	39	—	Yes.	Dr. Goodhart says all go to Guy's Hospital. Accidents are placed on ground-floor, separate from other patients.
20. Heidelberg, 6 yrs.	678	18	—	Yes.	
21. Frankfurt, 15 yrs.	2931	117	—	Yes.	
22. Bremen ...	339	9	—	Yes.	
23. Evelina, London	454	1	—	Yes.	
24. Aberdeen ...	355	17	—	Yes.	
25. Sheffield ...	142	7	—	Yes.	
26. Munich ...	826	50	Yes.	—	
27. Hanover ...	244	19	—	Yes.	
28. Warsaw (Jews' Hospital), 3 yrs.	977	78	—	Yes.	
29. Lausanne ...	239	—	—	Yes.	
30. Zurich, 3 yrs....	698	13	—	Yes.	
31. Paddington ...	320	16	—	Yes.	
32. Belgravia ...	116	—	—	—	
33. North-Eastern ...	618	62	—	Yes.	
34. Rue de Sèvres, Paris	5062	—	—	—	
35. Altona ...	146	—	—	Yes.	
36. Charkow ...	800	—	—	Yes.	
37. Countess Potocka's Hospital, Warsaw ...	971	—	—	Yes.	

TABLE VIII.—HOSPITALS WHICH DO NOT ADMIT ACCIDENTS.

HOSPITAL.	NUMBER OF PATIENTS.	REMARKS.
1. Rome, 15 yrs. ...	2941	Sent to General Hospital. Admission quite exceptional.
2. Stockholm, 7 yrs. ...	4074	Admission quite exceptional.
3. Belfast ...	329	Sent to Royal Hospital.
4. Manchester ...	1068	Sent to General Hospital.
5. Prince Paul, Petersburg ...	1600 to 2000	"Sent to General Hospital, the surgical department of which is very perfect."
6. Newcastle-on-Tyne ...	161	Sent to General Hospital.
7. Rotterdam, 2 yrs. ...	254	Sent to surgical wards of la Charité.
8. Berlin ...	900 to 1000	
9. Copenhagen ...	431	
10. Oldenburgh ...	90	
11. Edinburgh ...	649	Sent to Royal Infirmary.

TABLE IX.—HOSPITALS WHICH ADMIT SCARLATINA AND MEASLES.

HOSPITAL.	NUMBER OF PATIENTS.	NUMBER OF SCARLATINA AND MEASLES.	ARRANGEMENTS FOR ISOLATION.	REMARKS.
1. Aberdeen	355	24	In a separate building, with separate laundry, and food comes up by lift. No communication between attendants in Fever block and in hospital.	No out-break has been traced to Fever block Cases occasionally broke out in general wards, when no Fever patients were admitted. Dr. Stephenson is strongly in favour of present arrangements.
2. Manchester	1068	175	There are two wards, one with 26, other with 2 beds—detached from main building, though with communicating corridor, which is closed, but can be opened. Separate attendants. Are placed in a separate compartment on second floor of hospital.	Cases have occurred in other wards occasionally; but “have rarely been definitely traced to the Fever wards.”
3. Leopoldstadt, Vienna	1218	365		Cases do sometimes occur, even in those wards of the hospital which are most distant from contagious wards, and the physician, Dr. Unterholzner, is much more disposed to attribute this to visits of friends of patients; and the more since such outbreaks take place even in hospitals where no contagious diseases are admitted. Absolutely none.
4. Prince Paul, Petersburg	1600 to 2000	—	Separate building, with three floors for contagious diseases, and separate staircase to each, and separate nurses. Isolation absolute.	There are 6 quarantine wards, for children are sometimes admitted into general wards, in whom symptoms of Scarlatina or Measles afterwards show themselves; or they are sometimes brought in by visitors. Cases scarcely ever occur, and are then usually traceable to visitors.
5. Stettin	537	27	Separation absolute, in separate wards.	

HOSPITAL.	NUMBER OF PATIENTS.	NUMBER OF SCARLATINA AND MEASLES.	ARRANGEMENTS FOR ISOLATION.	REMARKS.
6. St. Joseph's, Vienna ...	720	201	Two rooms with 6 beds for Scarlatina ; Three rooms with 6 beds for Measles, with separate staircase leading to this part of the hospital.	No case of Scarlatina in hospital, last year, but 14 of Measles.
7. Berne, 2 yrs. ...	528	10	Report not clear.	4 of Diphtheria. Some of those came into general wards with incubation of these diseases.
8. Geneva ...	239	19	In separate detached building.	None occurred in other wards.
9. Munich ...	826	74	In two separate wards at top of the building.	5 of Scarlatina, and 2 of Measles occurred in general wards, and 1 of the Measles was distinctly traced to visit of a patients' sister.
10. Warsaw (Jews' Hospital), 3 yrs. ...	977	52	There are 3 separate wards, each with 3 beds, for Scarlatina, Measles and Diphtheria respectively; but they appear, from plan of hospital, to open into a common cor- ridor communicating with other wards.	No opinion expressed on general question. Cases have occurred, especially among sur- gical patients. A detached Fever block, in separate building, is in course of con- struction.
11. Dresden, 4 yrs. ...	2760	401	Scarlatina and Diphtheria are in a separate house. Measles in a distinct quite sepa- rate ward.	9 cases of Scarlatina and 14 of Measles have occurred, chiefly in the surgical wards, and this sometimes when no cases what- ever were in the Fever wards.
12. St. Elizabeth's, Peters- burg, 10 yrs. ...	5360	—	Scarlet Fever, Measles, and Diphtheria are all in a separate house, and each in a separate division of that house.	Did occur until construction of a separate house, and appointment of a separate doctor; since which they do not occur.
13. Paris, Hôpital Trous- seau ...	3884	—	There are separate wards for Measles and for Scarlatina, but isolation is very imper- fect: same nurses attend contagious and non-contagious cases.	Do sometimes occur in general wards, but “are mostly brought in by visitors to patients.” Even with the imperfect arrangements the spread of these diseases is “infinitely less than formerly.”

HOSPITAL.	NUMBER OF PATIENTS.	NUMBER OF SCARLATINA AND MEASLES.	ARRANGEMENTS FOR ISOLATION.	REMARKS.
14. Paris, Rue de Sèvres ...	5062	—	Measles are isolated, Scarlatina is not.	Arrangements defective. Before appearance of rash of Measles children not allowed to be moved from the general wards (by order of Government). Hence cases of Measles are frequent in general wards. Cases of Scarlatina, in spite of want of isolation, are much rarer.
15. Heidelberg, 6 yrs. ...	678	10	Separated.	Said not to spread; but inference can scarcely be drawn from so few cases.
16. Frankfurt, 15 yrs. ...	2931	249	Separate house for Scarlatina and Measles.	Nothing more said than "occur occasionally in other wards."
17. Bremen ...	369	43	In separate ward at top of house. Separate pavilion about to be built.	Cases occasionally occur. Attributed often to visitors.
18. Zurich ...	698	28	In top floor; with disinfection precautions.	Scarlet Fever has not become endemic in house. Measles have when epidemic in town.
19. Berlin ...	900	—	Separate ward. Three separate pavilions will be opened this winter for Scarlatina, Measles and Diphtheria.	I have sometimes had cases: but see Dr. Wyss' remarks.
20. Charkow...	800	—	Scarlatina, Measles and Diphtheria are each in separate wards.	Become much rarer in general wards, since contagious diseases have been put in separate wards.
21. Countess Potocka's Hospital, Warsaw ...	971	—	In separate detached building, wards not communicating; with 20 beds for Measles, 20 for Scarlatina. Separate nurse and doctor.	I have not occurred in other wards. Their admission has no influence on other patients in hospital. "Even during their epidemic prevalence the number of inter-current cases, thanks to the isolation, is insignificant."

TABLE X.—HOSPITALS WHICH DO NOT ADMIT SCARLATINA AND MEASLES.

HOSPITAL.	No. OF PATIENTS.	REMARKS.
1. Brunn ...	119	Hospital founded chiefly for chronic cases. Children's department is part of General Hospital. All Fevers in all Glasgow hospitals are removed to the Fever Hospital, but nevertheless have sometimes arisen in the wards, and have spread to a serious extent, notwithstanding every effort by removal in isolation to save the other children. Removed to Fever Hospital, which is close by.
2. Lüneburg, 6 yrs. ...	769	
3. East London ...	950	
4. Belfast ...	329	
5. Bolton ...	183	
6. Glasgow, 4 yrs. ...	1447	
7. Sheffield ...	142	Sent to General Hospital.
8. Bristol ...	523	
9. Liverpool ...	1088	
10. Derby ...	309	
11. Newcastle-on-Tyne ...	161	
12. Cassel ...	140	
13. Rotterdam, 2 yrs. ...	254	Admission discontinued on account of spread among other patients. Law and Practice differ. Such cases are admitted into separate wards, with separate attendants; but all the regulations are laxly observed.
14. Hanover ...	244	
15. Birkenhead...	339	
16. Lausanne, 2 yrs. ...	465	
17. Altona ...	146	
18. Rome ...	2760	

HOSPITAL.	No. OF PATIENTS.	REMARKS.
19. Stockholm, 7 yrs. ...	4074	In spite of their not being admitted, 168 cases have occurred, of whom 37 died. They are always in a separate ward; but Measles have nevertheless sometimes run through the hospital, attacking all who had not had it.
20. Evelina, London ...	454	There is a separate block for cases occurring in hospital; but in last few months it has been determined to move all cases to Fever Hospital—with approval of medical officers, there being “an impression that there being any in the block tended to cause disease to spread to other cases in hospital.”
21. Paddington ...	320	Since opening of Fever Hospital, the Fever wards have been converted into general wards, but cases still break out in the hospital as before. See Dr. Andrew's remarks in letter. Were admitted, apparently with no special precaution. Their non-admission has been followed by diminution of intercurrent cases in hospital. Scarlet Fever has nevertheless occurred several times in hospital, and Measles, if epidemic in the town, have attacked most of children in hospital. Reception discontinued on account of spread of Fevers in general wards. A separate building about to be constructed for intercurrent cases. See remarks in letter.
22. Belgravia ...	116	
23. North-Eastern ...	618	
24. Edinburgh ...	649	
25. Oldenburg ...	90	
26. Copenhagen ...	431	
27. Basle, 5 yrs. ...	2089	

I owe to the kindness of Dr. Jacobi, of New York, some details from Children's Hospitals in that city which have arrived too late to be tabulated.

The Mount Sinai received 251 of all ages up to 12, with a total mortality of 40. No contagious diseases are admitted; but nevertheless Measles were epidemic two years since, and hospital closed in consequence. Scarlatina has also occurred.

The St. Mary's receives about 200; but no contagious cases. Measles have nevertheless prevailed epidemically, and Scarlatina has also occurred, but not spread like Measles.

The Nursing and Child's Hospital receives children under 4 years, but not older. Of 3680 in 6 years, 897 died: of whom 84 were above; and 813 under 2 years old; or 90·8 per cent. of the deaths were of children under 2. Contagious diseases were not admitted; but Measles sometimes are epidemic. Scarlatina occurs, but not epidemically.

The returns from children's department of Bellevue Hospital are too incomplete to be used; except for the fact that no contagious diseases are admitted.

SUGGESTIONS FOR THE LOGICAL USE

OF

HOSPITAL STATISTICS,

WITH EXAMPLES.

BY

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SUGGESTIONS FOR THE LOGICAL USE OF

HOSPITAL STATISTICS.*

To one engaged in the treatment of Typhus Fever, especially in hospital, the question of how best to compare the statistics of practice in various hospitals possesses a very special interest. The disease, except apparently in the city of Dublin, is so clearly distinct from all other forms of continued fever; and a few hundred cases in Glasgow and in London, or elsewhere, with a certain mortality, seem so much alike, and so comparable, that comparisons are inevitably made. It was in looking over the reports of various hospitals for this purpose that ideas, not, however, new to my mind, on the leading principles to be remembered in such comparisons took shape. I hope to make it apparent that in no disease, more especially in typhus, can the results of treatment be with justice contrasted without attention to certain conditions of logical comparison, of which these are the chief:—(1) The aggregate numbers must be as nearly as possible equal. (2) They must represent cases continuously treated in one place, at one time, and as near as may be over the same space of time. (3) The numbers ought to be classified into similar periods of life, quinquennials being most

* It having been represented to me that some portions of my report of this Hospital—recently printed by order of the Magistrates' Committee of the Board of Police of Glasgow—would interest a wider circle of the profession than they are likely to reach unless published in a medical journal, I have compiled this paper from it, and I would now merely remind medical readers that these remarks were originally written for non-medical men, and were therefore clothed, as far as possible, in words free from medical technicalities.—J. B. R.

convenient; and any comparison ought to be reduced to the results in patients of the same periods. (4) To give a sound basis to the comparison of the general mortality for all periods, the proportion of those under each quinquenniad to the whole number, must be noted. The reason of this is the obvious fact, that two sets of statistics may run parallel through all the periods, and yet differ greatly in the general mortality. If, for example, one has a much larger number between 10 and 15 at a low percentage, or a much fewer number at a high percentage, or the reverse. This is the most important of all the conditions. Most comparisons between the general percentages of hospitals are fallacious, through what may be called ambiguity of the middle term. We say the mortality in London is 19 per cent., and in Glasgow 11 per cent.; and, the percentage being less, the treatment is more successful in Glasgow. But what is the *centum* of which 19 died, and what the *centum* of which 11 died? Are they the same, or do they not differ in themselves, as well as in the external circumstances we call treatment? When we compare 19 per cent. with 11 per cent. as the interest of two sums of money, the *centum* means pounds of sterling value; but in vital statistics it means men and women, unlike, as only men and women can be unlike, in all properties and circumstances. I confine myself to the point of age, which is the all-important one for us. To institute, *prima facie*, a comparison between the treatment of 1000 patients in London and 1000 in Glasgow, starting simply from the statement that the mortality is 11 per cent. in the one and 19 in the other, is quite as fallacious as to compare interest percentages of francs and dollars. Rather a parallel would be to mix the dollars and francs, and compare two hundreds picked promiscuously from the heap, without regard to the proportion of each. In hospital statistics, the *centum* is not a standard for all hospitals, but each *centum* is peculiar to its own. *It is a hundred patients, the number of whom at each age is in the same relative ratio as in the total number treated.* The Dundee *centum* therefore differs from the London, and the London from the Glasgow *centum*; and if it be that age influences of necessity, and to a degree beyond the reach of treatment, the results of treatment, then surely to compare the general percentages of any two hospitals without expressing somehow the ratio of the ages in each is fallacious. The question is, how can this best be done? I shall first make some remarks arising from a comparison of the mortality at individual periods in four hospitals, and then proceed to discuss this question, using the cases in point as illustrations of various methods which occur to me.

TABLE No. I.

Comparative Table of Mortality of Typhus at Quinquennial Periods of Age, in Four Hospitals.

AGE.	CITY OF GLASGOW FEVER HOSPITAL.			GLASGOW ROYAL INFIRMARY.			LONDON FEVER HOSPITAL.			DUNDEE ROYAL INFIRMARY.		
	Treat.	Died.	per Cent.	Treat.	Died.	per Cent.	Treat.	Died.	per Cent.	Treat.	Died.	per Cent.
0—4,...	48	6	12.5	12	...	...	32	2	6.4	38	1	2.6
5—9,...	172	2	1.16	83	1	1.2	146	5	3.4	123	1	.8
10—14,...	245	3	1.22	150	5	3.33	231	4	1.7	222	5	2.2
15—19,...	204	15	7.3	255	17	6.2	282	13	4.6	184	8	4.2
20—24,...	126	16	12.6	192	27	14.06	242	25	10.4	126	9	7.1
25—29,...	78	11	14.1	116	18	15.51	204	25	12.3	108	7	6.4
30—34,...	80	15	18.7	79	10	12.65	185	38	20.5	60	5	8.3
35—39,...	68	15	22.	82	19	23.17	151	45	29.8	70	12	17.1
40—44,...	55	17	30.9	51	20	39.21	143	52	36.3	94	27	28.7
45—49,...	33	7	21.2	26	15	57.96	126	52	41.2			
50—54,...	17	6	35.2	16	7	43.75	102	53	52.0	43	18	41.7
55—59,...	18	9	50.	15	9	60.	41	22	53.6			
60—64,...	5	3	60.	8	3	37.5	48	30	62.5	16	8	50.
65—69,...	4	2	50.	8	5	62.5	19	14	74.0			
70—74,...	...	...	...				8	6	75.0	...	...	...
75—79,...	1	1	100.0				1	1	100.	...	...	...
All Ages,	1154	128	11.09	1093	156	14.27	1961	387	19.7	1084	101	9.3

TABLE No. II.

Comparison of the General Mortality of Four Hospitals by Marks at each Period of Age.

AGE.								City of Glasgow Fever Hospital.	Glasgow Royal Infirmary.	London Fever Hospital.	Dundee Royal Infirmary.
0—4,	...	...	...	...	...	...	...	4	1	3	2
5—9,	...	...	...	...	...	...	...	2	3	4	1
10—14,	...	...	...	...	...	...	...	1	4	2	3
15—19,	...	...	...	...	...	...	...	4	3	2	1
20—24,	...	...	...	...	...	...	...	3	4	2	1
25—29,	...	...	...	...	...	...	...	3	4	2	1
30—34,	...	...	...	...	...	...	...	3	2	4	1
35—39,	...	...	...	...	...	...	...	2	3	4	1
40—44,	...	...	...	...	...	...	...	2	4	3	1
45—49,	...	...	...	...	...	...	...	2	4	3	1
50—54,	...	...	...	...	...	...	...	2	3	4	1
55—59,	...	...	...	...	...	...	...	2	4	3	1
60—64,	...	...	...	...	...	...	...	3	2	4	1
65—79,	...	...	...	...	...	...	...	2	3	4	1
Total Marks,								35	44	44	17
Average,								2.5	3.1	3.1	1.2

TABLE NO. III.

Comparison of the General Mortality of Three Hospitals, supposing each to have 100 Patients for each Period of Age.

AGE.	City of Glasgow Fever Hospital.	Glasgow Royal Infirmary.	London Fever Hospital.
0—4,	12·5	...	6·4
5—9,	1·1	1·2	3·4
10—14,	1·2	3·33	1·7
15—19,	7·3	6·2	4·6
20—24,	12·6	14·06	10·4
25—29,	14·1	15·57	12·3
30—34,	18·7	12·65	20·5
35—39,	22·0	23·17	29·8
40—44,	30·9	39·21	36·3
45—49,	21·2	57·96	41·2
50—54,	35·2	43·75	52·0
55—59,	50·0	60·00	53·6
60—64,	60·0	37·5	62·5
65—79,	60·0	62·5	75·0
Total Deaths,	346·8	377·04	409·7
Percentage,	24·7	26·0	29·0

Tables showing Various Circumstances affecting the Average Residence in Hospital of Typhus Cases.

No. IV.—MONTHLY VARIATIONS.

MONTH.	TYPHUS.		PERCENTAGE.		AVERAGE RESIDENCE.		
	Recov.	Died	Died.	Stimld.	Recov.	Died.	Over all.
1865.							
April—May, ...	110	16	12·7	31·8	17·4	6·1	16·
June,	105	15	12·5	28·5	18·	7·2	16·9
July,	95	12	11·2	27·3	17·8	6·1	16·4
August,	93	5	5·1	33·3	19·1	5·2	18·3
September, ...	70	9	11·4	32·8	18·7	5·6	18·
October,	79	8	9·6	31·6	17·3	10·6	16·7
November,	92	17	15·2	50·0	21·2	7·1	19·
December,	89	9	9·2	31·4	19·1	11·2	18·4
1866.							
January,	98	14	12·5	32·6	18·5	7·	17·
February,	84	14	14·2	38·0	19·3	6·8	17·5
March,	64	6	8·5	40·6	19·	5·6	19·
April,	47	3	6·0	38·2	18·7	4·3	17·9
	1026	128	11·	34·3	18·8	7·0	17·5

TABLE No. V.—INFLUENCE OF AGE.

AGE.	TYPHUS.		PERCENTAGE.		AVERAGE RESIDENCE,		
	Recov.	Died.	Died.	Stimld.	Recov.	Died.	Over all.
0— 4,	42	6	12·5	4·7	16·4	4·6	14·9
5— 9,	170	2	1·16	10·	18·6	6·5	18·5
10—14,	242	3	1·22	16·5	18·5	14·3	18·4
15—19,	189	15	7·3	37·5	20·0	7·8	19·5
20—24,	110	16	12·6	50·	18·7	10·6	17·7
25—29,	67	11	14·1	55·2	17·6	8·3	16·3
30—34,	65	15	18·7	55·3	17·7	7·2	15·7
35—39,	53	15	22·0	58·6	18·3	3·5	15·
40—44,	38	17	30·9	63·	18·2	7·2	14·8
45—49,	26	7	21·2	69·2	18·3	4·8	15·5
50—54,	11	6	35·2	81·8	23·6	2·3	19·
55—59,	9	9	50·0	77·7	22·3	8·3	15·3
60—64,	2	3	60·0	100·	23·5	5·3	12·6
65—69,	2	2	50·0	100·	18·0	8·5	13·2
75—79, ... ..	...	1	100·	...	...	4·0	4·0
	1026	128	11·				

TABLE No. VI.

Table showing Proportion above and below Average Residence at various Periods of Age of those who Recovered.

AGE.	Average Residence of those who Recovered	IN 100.		
		Above Av.	Below Av.	At Aver.
0— 4,	16·4	14·2	52·3	33·5
5— 9,	18·6	28·2	20·5	51·3
10—14,	18·5	28·5	20·5	51·0
15—19,	20·0	40·7	11·6	47·7
20—24,	18·7	29·0	19·0	52·0
25—29,	17·6	20·8	29·8	49·4
30—34,	17·7	26·0	26·0	48·
35—39,	18·3	30·0	22·6	47·4
40—44,	18·2	42·0	18·4	39·6
45—49,	18·3	30·7	26·9	42·4
50—54,	23·6	54·5	9·	36·5
55—59,	22·3	44·0	22·	34·
60—64,	23·5	100·	...	...
65—69,	18·0	...	...	100·

I refer to Table No. I., a "Comparative Table of the Mortality of Typhus at Quinquennial periods of Age, in Four Hospitals," viz.:—the Magistrates' Hospital and the Royal Infirmary, Glasgow; the London Fever Hospital; and the Royal Infirmary, Dundee. The statistics of the two latter are from their last Annual Reports, and those of the Glasgow Royal Infirmary from a paper by Dr. Perry, Physician to the Fever-house, giving the results of his treatment for 1865, published in this *Journal* for January, 1866.

The first three conditions are here all satisfied. The most striking fact is one to the disadvantage of this Hospital, and also a good example of how an analysis of cases, even beyond the quinquennial periods, may prevent a fallacy, and lead to a valuable inference. The fact to which I refer is the excessive mortality of 12·5 per cent. in children below five, which is double that in London at the same age, and nearly five times that in Dundee, while in the Royal Infirmary here there were 12 cases treated without a death. This was quite inexplicable to me for a time, and still is very vexing; but a more minute analysis of my cases proved that the explanation lay in a fact which I had already seen reason to suspect—the fatality of typhus *during the period of suckling* in infants. This is shown by the following subdivision of the 48 cases treated under five years.

9 months and under,	Treated 7; died, 2, or 28·5 per cent.
Above 9 months and under 2 yrs.,	„ 4; „ 1, or 25·0 „
From 2 to 4 years,	„ 37; „ 3, or 8·0 „

The actual ages of the seven cases aged "9 months and under" were:—8 days (*died*), 3 months, 5 months (*died*), 7 months, 8 months, and two 9 months. I have examined carefully the reports of other hospitals, and also written for more minute information, and find that none of them have any experience of patients so young, except Dundee, where they had only three—all of whom, however, recovered. In the Town's Hospital, where also children of this tender age are treated, my results were equally unfavourable. The cause of the mortality is, (1) that up to the time of admission these infants were suckled by mothers far advanced in typhus. They were therefore poisoned by the vitiated milk. (2) The deprivation of their proper food after admission, when conjoined with the constitutional effects of this circumstance, was enough, without the influence of the fever in their own systems, to cause great disturbance, or even to kill them. Indeed, except when the eruption was present, the feverishness might well be explained by gastric derangement alone.

As between the results at other quinquenniads, it will be seen that as a rule the Dundee mortality is uniformly and remarkably less, and our own follows next, but not quite decidedly until we get into the more advanced periods. At all ages above thirty my mortality is less than that of the London Fever Hospital, and, with four exceptions, at all ages whatever less than that of the Royal Infirmary. Above forty my mortality is as much as from 10 to 20 per cent. less than that of London and Glasgow. To put it in the most general way, the treatment of the aged has been more favourable, and of the young less favourable, in this Hospital than in the others I have named.

It is in the comparison of the general mortality that we find the greatest difficulty in satisfying the conditions of accuracy. There are two propositions the remembrance of which will give us considerable aid: (1) That the evil we have to contend against being the including in one category a diversity of ages, minute subdivisions of ages must be the basis of any comparison to be made. (2) That the one permanent element in these statistics is the percentage; and, since the fallacy lies in the *centum*, by operating on it and retaining the percentage we may hope to arrive at what we wish. I speak, of course, of the percentages at the various periods.

To illustrate the necessity of the measure I propose, let me take the *centum* or sample hundred of each hospital, and find what proportion of it is below twenty years of age, and how much each proportion contributes to the general percentage. I have drawn a line across my Table No. I. to indicate the boundary above and below which the greatest contrast of mortality occurs. I have tried to exhibit the result as graphically as possible:—

Mortality.			
G.F.H., 11	per 100 patients,	{ of whom 57.9 are below 20, and 3.8 per cent. died.	
		{ and 42.1 are above 20, ,, 21.03 ,,	
G.R.I., 14	,,	{ of whom 45.7 are below 20, ,, 4.6 ,,	
		{ and 54.3 are above 20, ,, 22.42 ,,	
L.F.H., 19	,,	{ of whom 35.2 are below 20, ,, 3.4 ,,	
		{ and 64.8 are above 20, ,, 28.58 ,,	
D.R.I., 9	,,	{ of whom 52.3 are below 20, ,, 2.6 ,,	
		{ and 47.7 are above 20, ,, 16.63 ,,	

No remarks are necessary to point the moral of these figures. Below twenty years of age the mortality must, under all circumstances, be seven or eight times less than above it; and it is impossible to compare general percentages such as those of this and the London Fever Hospital, when out of every hundred of the one only 35, as against 57 of the other, are of such an age that a small mortality is possible. And this is but a

rude way of expressing the disadvantage under which the London Hospital labours; for there is a great stretch of ages above twenty which may exist in all proportions. The question of how best to compare statistics of mortality, so as to give the *minutest* expression to differences of age and of proportions of numbers at various ages, is one to which I have given some consideration. It seems to me that, as between hospitals, the best standard is, *the lowest mortality at all periods of life*; and, therefore, that hospital is most successful which can show *the least mortality at the greatest number of periods*.

1st. This is the first method I would suggest, and it may best be explained by reference to Table No. II., where the method is applied to the four hospitals whose statistics are before us. A comparison is made at each period, and each hospital is credited with its relative position, 1st, 2nd, 3rd, or 4th. The sum of each column is then taken, and this, divided by the number of periods of age, gives the average position of each period in each hospital. Dundee is found to be within a small fraction of the highest standard; the Magistrates' Hospital comes second; and the Glasgow Royal Infirmary and London Fever Hospital are equal.

2nd. Another method is to take from the Table on page 255 the proportions to the 100 above and below twenty in any one hospital, and apply to them the percentages of the others. This partially eliminates the amount of difference in the general mortality which may be supposed to depend simply on the difference in the age of the patients. The difference between the new percentages thus obtained may roughly be credited to other circumstances than age, to treatment among the rest. For example, take the *centum* of this hospital with 57·9 above. and 42·1 below twenty. The result is very interesting:—

Glasgow Fever Hospital,	...	11	per cent.	
Glasgow Royal Infirmary,	...	12	„	instead of 14 per cent.
London Fever Hospital,	...	13·9	„	19 „
Dundee Royal Infirmary,	...	8·5	„	9 „

3d. A third method (illustrated by Table No. III.), and the most easily applied, perhaps, of all, is to take the sum of the percentages at the various periods, and divide by the number of periods. This is, in reality, a more minute application of the second method, and, in plain terms, means this: Supposing each hospital to get 100 patients at each period of age, at their rate of mortality, what would be the comparative death-rate? The sum of the percentages gives the deaths out of the total number of patients, which is in this case 1400. Dividing by 14, of course, gives the general mortality. I have not introduced Dundee, as there can be no question of its superiority in

every way. To my mind, the reflections most plainly suggested by all these attempts to equalize the material, so to speak, on which treatment is practised, are—(1) That the influence of age on the mortality of fever is out of all comparison greater than that of any *internal* circumstance, such as occupation, habits, sex, &c. (2) That, beyond all question, age so affects what at first sight might seem the action of *external* circumstances, such as medical treatment, ventilation, &c., that, when ages are equalized, the results in different hospitals so nearly approach, that the margin is provokingly small, as a rule, which can be justly credited to these external circumstances.

The comparison of the *Average Residence* in hospital of typhus patients, as well as of the mortality, requires certain precautions. In the City of Glasgow Hospital, it was : Of those who recovered, 18·8 ; of those who died, 7 ; and over all, 17½ days. In the Town's Hospital, under my own treatment, the average over all cases of typhus was 21 days. In the Royal Infirmary here, and in Dundee, it is rather more. I attribute this, in great part, to the unrestricted use of open air exercise by my convalescents, but I have prosecuted an inquiry, which has led to unexpectedly interesting results, into sundry circumstances affecting average residence, lest there should be any fallacy in my inferences. When we regard the shortness of a patient's residence as a ready index to the resilience of his system after fever, the enquiry becomes more interesting than when viewed as a mere question of finance. In Table IV. the monthly variations of average residence and percentage stimulated are given. Taking the extent of the stimulation as a delicate test of the combined effects of age and severity of attack, it is interesting to note the close agreement between the variations. They are not in the same proportion, but always show a decided sympathy. In Table V. the influence of age is shown. In reference to these Tables I would make the following remarks, as legitimately following from facts which they embrace.

1st. That since, in reckoning the average *over all*, those who died are included, the influence of a greater number of aged patients, and a higher death-rate tends to produce a *shorter general average*. So far, this, as well as the opportunity in a general hospital of shifting fever patients detained by sequelae, as gangrene of limbs, &c., to another department, has been adverse to a favourable contrast between this and other hospitals.

2d. That when only the average residence of *those who recovered* is compared at various ages, there is (1) a remarkable uniformity over all ages. It was, for instance, a surprise to me to find that, up to 50, the average range should differ so little

as 16 and 18 days. (2) It is also worthy of note that below 50, excluding the period 0—4 years, the lowest average should be from 25 to 35 years, and the highest from 15 to 19; while immediately we get above 50, we have an abrupt increase of no less than 5 days. (3) Comparing the length of residence of those who died, it will be seen that, in a general way, it follows a rule the opposite of that of those who recovered. Those who died at the earlier periods seem, on the whole, to have resided longer, that is, to have resisted the disease longer, than those at the later. My general reflection on these facts is:—

3d. That the superior vitality and recuperative power of the system at the earlier periods of life is shown, not by a very decidedly shorter convalescence over all, but by the lower death-rate. The older simply succumb to the force of an attack, against which the younger, even those who ultimately die, bear up for a longer period, as we see from the fact noted above as to the longer residence of those who died young. Consequently, those older persons who do recover, as a rule, rapidly regain strength, while many young persons escape with bare life, and have a tedious convalescence, who at a more advanced age would have died. I find that an analysis of the length of residence of individual cases confirms this explanation. If it be correct, we should expect that in advanced life the duration would be more uniform, none very short and none very long, or, at any rate, a steady preponderance of the longer; while at the earlier ages there would be a wide range—many above, and many below the average, those above representing the tedious cases which have long and successfully resisted the “tendency to death.” So it is. Taking 15 to 20 days as an average residence, I have constructed Table No. VI., showing for different ages the average residence of those who recovered, and the proportion of protracted and rapid recoveries. It is rather curious that, as we may see by subtracting the sum of those above and below average from 100, those at the average do not vary much till we get above 40. The difference is in the proportion going to one side or the other of the average. From 5 to 40, excepting between 15 and 19, the severe and slight cases nearly balance one another, producing, with great variety of case, a result near the general average. Below 5 the mild cases so greatly predominate as to bring down the average by two days. Between 15 and 19 the very opposite condition produces the opposite result, and sends up the average by two days; while above 50 we have the balance between nutrition and decay so nice that the slightest disturbance of it is recovered from with difficulty. Regarding the period of life

between 15 and 19, I would merely record, without at present fully investigating the fact, that in all the relations of age to the phenomena of fever, it is marked by peculiarities. There the mortality shoots up quite out of proportion to the rate of increase either earlier or later in life; there the percentage stimulated is more than doubled, as compared with the period immediately preceding; and there, too, the duration of convalescence is longer than, and the proportion of tedious recoveries almost twice as great as, at any age below fifty. All these facts prove that some disturbing element is here suddenly introduced into the organism, giving to all its derangements a more grave complexion. That element is, in all probability, the attainment of puberty. We see what changes the most normal transition into this period produces in all the physiological processes of the body, more especially in the female sex—how the nutritive functions are modified, the nervous system is made more susceptible, and the mind subjected to new appetites and emotions. It is not, therefore, surprising to find indications that morbid processes also become, at that time of general commotion, unusually active, and productive both of greater mortality and deeper lesions requiring more time to heal.

An enquiry into the influence of sex on the results of fever would be both important and interesting; but such an enquiry must be based on greater numbers than I have yet at command. So far as my present statistics go, the percentage of females stimulated is decidedly greater than of males, while the mortality is as decidedly less. I have remarked this fact previously but in a much greater degree. It would seem that while females have a greater tendency to nervous prostration which induces the exhibition of stimulants, they also, from their previously more temperate habits, or from a constitutional susceptibility of excitement proportioned to this tendency to depression, derive more benefit from them than males. The average residence of those who recovered is about the same in both sexes over all ages, but when we prosecute the enquiry into the quinquennial periods, indications of most interesting facts appear, but, as I have already said, until wider data are obtained they can only be regarded as guides for future investigation. Puberty is marked alike in both sexes by a sudden aggravation of all the phenomena of fever, but in the male immediately that climacteric age is passed, the severity of these phenomena tends to subside or rather to increase with the age in a lesser ratio, but not so in the female. The child-bearing period seems to bring with it certain penalties to which the male is not exposed. Certainly, since it is this which is the chief characteristic of the sex between 15 and

45, it is not unreasonable to trace to it more or less directly the peculiarities of typhus in the female between these extremes.

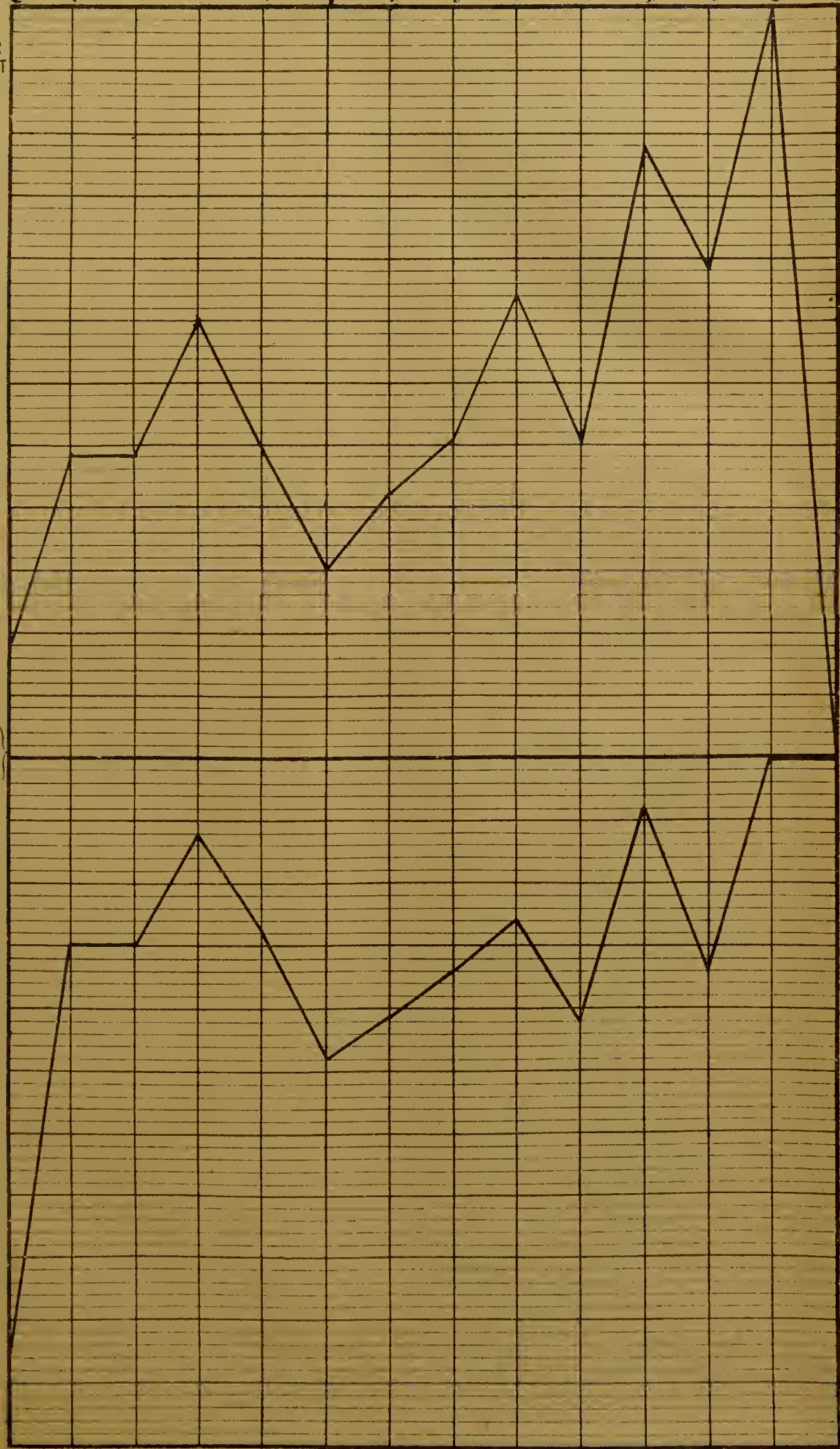
The diagram prefixed to this paper is a graphic representation of the variation on each side of the average of the slight and severe cases which I have explained above verbally. If one will take the trouble of looking at the relations between the two sets of lines, many interesting reflections will be suggested, and especially this, which may be taken as the moral of this paper—*the danger in reasoning founded on vital statistics, of losing sight of the units of the numbers from which we reason.*

DIAGRAM ILLUSTRATIVE OF TABLE N^o 6

0-4 5-9 10-14 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65-69

PER CENT
60
55
50
45
40
35
30
25
20
15
10

AVERAGE
-20 DAYS
10
15
20
25
30
35
40
45
50
55
60



REPORT
OF THE
CITY OF GLASGOW
FEVER HOSPITAL,

From 1st May, 1869, to 30th April, 1870.

BY
DR. JAS. B. RUSSELL,
PHYSICIAN-SUPERINTENDENT.

PRESENTED TO THE COMMITTEE OF HEALTH OF THE BOARD OF POLICE,
11TH JULY, 1870, AND ORDERED TO BE PRINTED.

GLASGOW:
PRINTED BY ROBERT ANDERSON, 22 ANN STREET.
1870.

The Committee of Health.

THE Hospital is now under the management of the COMMITTEE OF HEALTH, of which Mr. JOHN URE is Chairman.

Meets every alternate Monday, at 2 P.M.; the Sub-Committee one hour earlier, to examine and pass Accounts, and for other routine Business.

Physician-Superintendent.

JAMES B. RUSSELL, M.D., F.F.P.S.G.

Resident Medical Officer.

GAVIN P. TENNENT, M.D., C.M.

Matron.

MISS JANE GIBSON.

Clerk and Storekeeper.

JOHN MUNRO.

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R E P O R T .

THE Fifth Year of the existence of the City of Glasgow Fever Hospital, on which I have now the honour to Report, has been in various aspects the most remarkable of the five. We have in this treated almost double the highest number admitted in any previous year. Owing to the demand for beds being in advance of our accommodation, the Hospital Buildings have been added to on two occasions. Another feature of the year which is remarkable in the history of epidemic disease, as well as of the Hospital, is the admission to its wards of Relapsing Fever.

At the beginning of last Annual Report I stated that the Hospital was crowded, and that an extension of the Nurses' Dormitories was necessary, owing to the number of Nurses required being in excess of the accommodation originally provided for them. In August, 1869, the Board authorized the erection, at a cost of £196, of a two-story brick building containing four rooms, with three beds in each, thus providing for 12 Nurses. This set free a few Hospital beds which had been given up for official use, but otherwise did not enable us to receive a greater number of patients. The question of increased fever accommodation, therefore, soon pressed itself upon the attention of the Fever Hospital Committee. It formed the subject of much deliberation and enquiry. A very eligible site for a permanent hospital was examined on the South-side; but it soon became evident that it was impossible to move towards the final solution of the question amid the entanglement of real obstacles and diversity of opinion as to principles of construction, site, &c. The practical and fatal objection to the project of erecting a

New Hospital on a new site was that it could not avail for present necessity; and this, combined with the immense cost of the new site, led the Board to accept the assistance offered by the Directors of the Royal Infirmary, and send their surplus patients there. However, with the approach of winter, and the increase of the epidemic on the one hand, and of the ordinary sickness of the community on the other, there arose the usual pressure upon the wards of the Royal Infirmary. The Directors felt they had undertaken too much, and the question of fever accommodation again appealed to the Board of Police. Still hesitating to add to the temporary erections in Parliamentary Road, and thus to bind themselves still more to that site, the Board again accepted temporary relief at the hands of the Directors of the Infirmary, who placed at the disposal of the Board, to be transformed into fever wards, a range of brick buildings then approaching completion, and intended for use as washing-houses. By a Minute of 18th November, 1869, it was agreed to fit up these washing-houses and furnish them with beds, bedding, and other requisites, the Police Board being also bound to restore the building to its former condition, to quit on a month's notice, and to pay the usual sum of £2 for each patient treated in these wards. The adaptation of the washing-houses cost £370; the number of beds thus obtained was 35. The aspect of affairs did not improve towards the close of 1869, and in prospect of the increase of typhus, which commonly occurs in the early spring, and having regard to the progress of Relapsing Fever northwards, the Board ultimately agreed (30th December), on the representations of Mr. Dallas, to acquire additional ground to the north of the present Hospital, and to erect thereon a Pavilion containing 34 beds, there being space for the erection of other three if required. A feu-contract was entered into for the new site on terms somewhat similar to those on which the old is held. The two sites combined form an area of nearly $3\frac{1}{2}$ acres, the yearly feu-duty on which will probably be about £700.

The New North Pavilion resembles the other pavilions, both in external appearance and in general internal arrangements. It contains two wards entirely separate from one another, having each two apartments—a large with 11 beds for the cases while acutely ill, and a small with 6 beds for the convalescents. In its erection advantage was taken of experience of the other pavilions, and many improvements were introduced; none very striking, but all conducive to the greater comfort and safety of the patients and nurses. Each bed in the acute wards is a foot further apart than in the older wards, making the ward 6 feet longer, and thus increasing the cubic and area-space per bed. There are also certain arrangements tending to ensure the perfect disinfection of all excreta. Altogether, I believe this pavilion to be as nearly as possible a model of an hospital for the treatment of infectious diseases, ensuring the maximum of comfort to the patient, and the minimum of danger to the attendants and to the other inmates of the Institution.

I should feel satisfied if all additions and structural alterations were done in permanent material, and with a definite plan of what the Hospital is ultimately to be. In this way the full benefit of the temporary erections might be obtained, and the cost of replacing them with more durable buildings would be spread over some years. Such a plan can be carried out only in one way: by anticipating those periods of epidemic pressure, by employing the summer in preparation for the winter. The experience of the past winter as above narrated, furnishes an excellent illustration of the results of delaying operations until the necessities of an epidemic are urgent and immediate. Although that portion of the Hospital buildings used for administrative purposes is defective in convenience and extent, I am happy to say that no portion of those buildings is defective from decay or imperfection in material or workmanship. The outlay for maintenance, excepting possibly the biennial painting of the external wood-work, has certainly not been more than an hospital of equal extent, built of stone and of pretentious

architecture, would have required. After five years' exposure the wooden pavilions are perfectly comfortable in all weathers, and promise to continue so for some years to come.

My opinion on another matter has been confirmed by the experience of the year just closed. I refer to the "unification of the interests which deal with fever," of which I said in last Annual Report—"There is in reality but one interest, that of the Public—of the City as a whole" (p. 11). I believe it will become more and more evident every year to the heads of the Sanitary Department, in the working out of those admirable "*Instructions for the Medical, Inspecting, and Cleansing Officers*," recently compiled and printed, that to give them full command over infectious diseases it will be necessary to undertake their Hospital treatment entirely. The *prevention* of disease is the special province of the Local Authority. Its *treatment* may devolve on various public bodies and institutions, according to accidental or special circumstances. These public bodies and institutions receive and treat a person suffering from fever just as they would the same person had he any surgical injury or ordinary disease: they do so for the *individual good* solely. On the other hand, when the Local Authority treats a person suffering from fever, it is because the person has a "contagious" disease, and indeed comes within the meaning, if not the definition, of the term "Nuisance;" they do so for the *public good* solely. It is quite possible to treat contagious disease in the most perfect way, so far as the sick individual is concerned, and yet to fall short of perfect precautionary measures for the prevention of its spread. The Public Health Act makes it imperative under penalty for "any person suffering from any infectious Disorder," for "any person in charge of a person so suffering," and in respect of clothing, lodgings, &c., for "any person" absolutely, that they should adopt preventive measures. But still in respect of hospital patients, the Local Authority can hardly ensure the fullest exercise of the preventive power which is possible; unless they are under their own care from beginning to end of the disease. I believe that under

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the Public Health Act, the Local Authority have power to enquire into the disinfecting and other preventive measures adopted by the Managers of Hospitals and others who assume the care of the sick; and that any evident neglect on the part of such Managers and others would incur a penalty. But there are points of procedure where the practical necessity, though probable, or almost certain, is still not sufficient to become a ground of compulsion by law.

The entire question may very aptly be illustrated by the suggestion recently made to the Board of Police by the Directors of the Royal Infirmary regarding the erection of a Convalescent Home for small-pox patients. The duty of the Directors to a person suffering from small-pox is discharged when he has recovered so far as to be dismissed without injury to his own health; but their duty as custodiers of the patient is not discharged to the public so long as it is dangerous to the public that he should be set loose among them. But who is to determine when that dangerous period is past? Who is to determine the time a fever patient ought to be retained (for the question is entirely empirical), if the medical officers and directors of any hospital asserted that the period of residence which the Local Authority held to be too short, was long enough, and refused to extend it? To the Directors of the Infirmary, or the Managers of a Parochial Board, this question necessarily presents a financial aspect. For every day a patient is maintained in Hospital, a certain expense is incurred by those who support the Hospital. Therefore, when a patient is retained longer than is requisite merely for his own health's sake, there is an expenditure of money; and it may fairly be asked, since this is solely for the public good, ought it not to be borne by the Local Authority? I speak from experience as to the additional expense, as I confess the preventive aspect of Hospital treatment, when undertaken by the Local Authority, has not always held the primary place which it now does in the management of the Fever Hospital. During the past year, I made a more

* As to this question, see further on, under *Average Residence* of Typhus.

special endeavour to retain my patients in Hospital until the infecting power was gone, or might reasonably be supposed to be gone. This has resulted in an addition to the *average* residence of each patient of three days. What has been the *financial* effect of this precautionary measure? Taking the cost of food alone as an undeniable result of retaining a patient in Hospital, I find that at least £170 has been added to the expenditure. I have no doubt that, taking everything into account, the absolute increase has been £200.* At the same rate, the average residence of each fever patient admitted to the Royal Infirmary in 1869 having been nineteen days, the addition of two days would have added upwards of £63 to the outlay of that Institution. This would be purely a preventive measure, and the Directors might fairly ask the Police Board to relieve their public charity of this burden. It is only as a preventive measure, not for benevolent purposes simply, that the Local Authority could legally take charge of convalescents from infectious diseases. Undoubtedly, then, a much more practical and certain way of attaining the end in view would be to lose no opportunity of obtaining command of the entire hospital treatment of such diseases. It is a mere accidental circumstance that a patient has a "line" for the Infirmary; and if the individual is willing to go to the City Hospital, that can be no obstacle. The chief difficulty is in dealing with the Parishes. I am not in favour of relieving the Parish of the charge of a pauper merely because he happens to be disabled from a fever instead of from consumption or a broken leg. It may be expedient for the public good that the Local Authority should treat paupers ill of fever, but the Parish ought still to pay according to a recognized tariff, just as one Parish pays another under the Poor Law Act. It so happens that the most important of all the Parishes into which the City is divided, the City Parish, has all along been desirous to have the cases of fever chargeable to it, treated by the Sanitary Department for payment. As appears from another part of

* See p. 16 for further remarks on this subject.

this Report, it was only when the accommodation became deficient in Parliamentary Road, and the City Parish cases were excluded, that they ceased to send them there. I would strongly advise the Police Board not to let this opportunity of consolidating the treatment of fever in Glasgow slip, but at once to make permanent arrangements with the City Parish, and, if necessary, enlarge still further the Hospital accommodation of the Board. The result of delay will be that the City Parish will provide, like the Barony and Govan Parishes, fever wards of their own, and the evil of divided interests will be increased. Even with regard to these other Parishes, something might be attempted in the way of consolidation. Govan Parish would probably come to terms; the Barony Parish probably not, as they must have a fever hospital for the landward part of their territory. Gorbals Parish is in the same position as the City Parish. If all this could be accomplished, I am satisfied that the action of the Sanitary Department would be immensely simplified and facilitated; because this great principle would be plainly asserted, that in the matter of infectious disease the public interest is paramount to all local or individual interests.

Passing now to the domestic history of the City of Glasgow Fever Hospital, I may first note that the Fever Hospital Committee was one of those which were amalgamated into a general Committee of Health. The internal affairs of the Hospital are now supervised by this latter Committee. After the resignation of Mr. Dallas, who had always taken a deep interest in the Hospital, Mr. A. H. M'Lellan was appointed to assist and direct me in difficulties—a duty which his previous experience as Chairman of the Barony Parochial Board, more especially while their fever hospital was being erected, renders him peculiarly fitted to discharge with advantage to this Institution.

The services of an extra Resident Assistant were requisite during the entire year; and, indeed, after the occupation of the New Pavilion, the sanction of the Health Committee was obtained for the appointment of a third; but, happily, the

decline of the epidemic shortly after rendered this unnecessary. We still retain the services of Dr. Tennent as Resident Medical Officer. During greater part of the year he had independent charge of some wards, merely consulting me in difficulties. The conscientious and indefatigable way in which he performs all his duties deserves my hearty acknowledgment. In regard to the present Report, I may say that the Statistical Tables in the Appendix referring to the patients treated were drawn up entirely by Dr. Tennent. My extra Assistant, Dr. M'Kellar, has also given me satisfaction in discharging his share of the general work. He had the misfortune to be seized with typhus only four weeks after his appointment.

The number of Nurses required during the year has of course been much greater than usual. Although extensive advertising was necessary to obtain respectable women for the service, and although we were frequently in great straits from not finding them exactly when wanted, I have reason to feel satisfied with the standard maintained throughout the year. The number who fell ill of typhus increased our difficulties greatly, sometimes three or even four of the Nurses on our Monthly Pay-Sheet being disabled at one time. The following is the Matron's Annual Report of changes in the staff:—

On Staff, 1st May, 1869, 14; subsequently engaged, 25;	...	39
Resigned,	...	9
Dismissed for drink,	...	4
Inefficient,	...	1
Bad temper,	...	1
Died,	...	4
	—	19
Remaining on the Staff, 1st May, 1870,	...	<u>20</u>

In comparison with previous Reports, it is gratifying to find that there have been fewer changes this year than ever before, although the staff is much more numerous. Of the 14 who were in our employment at the beginning of the year, 9 were

still in our service at its close. The system of engagements for periods of six or three months is still followed with those who pass the usual probation of one or two months.

As the pressure increased upon our accommodation it was necessary to refuse Parochial and other paying cases. No Parochial cases were admitted after August. Previous to that date 212 cases were admitted payable by the City Parish, 12 by the Gorbals Parish, and 3 by private parties—in all 227, against 505 last year.

The power of compulsory removal conferred on the Local Authority by the Public Health Act, section 42, was exercised on four occasions last year. It is a most salutary power, as the cases thus removed sufficiently proved. The patients were helplessly ill, unable rationally to dispose of themselves. They were in charge of ignorant, debased, in one case intoxicated people. We might with as much reason allow a man to set fire to his own house, as permit such persons to keep fever cases in their houses; we cannot say under their care. Patients have been, as in former years, admitted at all hours of the night, on representation of urgency from their medical attendants. Many have also walked to the Hospital gate, or have been carried there, and after examination by the Resident Medical Officer have been passed into the wards. It seems to be well known now among the migratory poor that, when stricken with fever, they can always find a refuge here. There is a public benefit in this, as a certificate of illness costs money, and the presentation of their sick persons at our gates is a cheap and very trustworthy kind of certificate, perhaps therefore resorted to sooner on that account. Sometimes, however, very miserable creatures apply, who suffer not from fever, but the languor and mental and physical discomfort of a recent debauch.

From 1st May, 1869, to 30th April, 1870, the total number of patients admitted was 2230. At the close of last year, 112 were under treatment, making a total of 2342—of whom 1938 were dismissed, and 304 died, leaving 100 to be carried to next year. The highest previous number admitted was 1318,

in the year in which the Hospital was opened. Table No. I. shows the monthly admissions, dismissions, and deaths, and the highest and lowest numbers in the Hospital for each month. The highest monthly admission was 218, in May, and the highest number under treatment at one time was 149, in September. The lowest number in the Hospital during the year was 92, in July. These numbers are the highest in the history of the Hospital. The last two columns in this Table show the daily average in each month, and the corresponding number of Nurses on the pay-sheets. The Hospital was fullest in October, when the daily average was 145.

In Table No. II., and subsequently, we speak of the *results of treatment* of the 2230 admitted during the year, the 112 remaining at the end of last year having been already accounted for in last Report, the 100 remaining at the end of the year under review being in like manner traced to their ultimate issue in this Report. In this Table, also, those cases admitted in each month are classified according to the diseases from which they suffered—the general result for the year being, that of the 2230 cases admitted, 2023 were cases of Typhus, 77 of Enteric Fever, 19 of Relapsing Fever, 12 of Scarlet Fever, 1 of Small-pox, 2 of Measles, 19 of Febricula, and 77 of other diseases.

Typhus.—The general statistics of Typhus are given in Table No. III. The mortality was 13·7 per cent., very slightly less than last year (13·8). In Table No. IV. the statistics of the Hospital since its opening, and also of the Royal Infirmary for 1869, are printed in parallel columns. As compared with the Royal Infirmary, it will be observed that our mortality has, in the aggregate, been nearly 3 per cent. less. But when we adopt the more accurate method of comparison, which has always been adopted in these Reports, our comparative position is not so good as at first sight it appears to be. Thus, contrasting our results at quinquennial periods of age, those of the Royal Infirmary are best at seven periods, and those of this Hospital at six;

at one period (60-64) they are the same, and at one (70-74), no cases so far advanced in age were treated in this Hospital. Again, supposing that each Hospital had treated 100 patients at each period of age, at the same rate of mortality as that actually exhibited in each, we find that the mortality of this Hospital would be to that of the Infirmary as 30 is to 26. It is a curious circumstance that the mortality of the sexes should be anomalous according to precedent in both Hospitals, though in an opposite manner in each. Thus, whereas females usually suffer less than males—in this Hospital, last year, the male mortality was only 12·8 per cent., while the female was 14·5. In the Royal Infirmary on the contrary, the female mortality which is generally 2 per cent. less than the male, was nearly 6 per cent. less (males, 19·1, females, 13·5). As the proportion of the sexes was alike in both Hospitals, these facts afford no explanation of the general relative results. The only fact which can be taken into account, as probably explaining these results, is afforded by the unusual number of deaths which took place last year soon after admission to the City of Glasgow Fever Hospital. Of our fatal cases, 4 died within 12 hours after admission, 8 within 24, 11 within 36, and 12 within 48 hours. There were thus no fewer than 35 cases in all, of death within 48 hours after admission. When these cases are classified according to their ages, it is remarkable to find that, 30 out of the total of 35 fall under those periods of age at which the results of the Infirmary excel our own. When we state that only 8 per cent. of the fatal cases in the Royal Infirmary died within 48 hours, as against 12·5 per cent. of the fatal cases in the City of Glasgow Fever Hospital, we are justified in supposing that no small share of our excess of mortality is to be ascribed to the hopeless condition of many of our patients when admitted.

The Average Residence of Typhus cases who recovered was 23·6 days; of those who died, rather more than 6 days, and over all cases, 21¼ days. As already stated, during the past year a more decided effort than ever was made to retain

our convalescent patients in Hospital until the power of communicating infection was exhausted. The result is shown in the prolongation of the average residence of those who recovered by four days, and over all cases, by three days. Two other results followed, which are less obvious, the one being that a number of our patients took "French leave" by eloping over the easily-surmounted fence which surrounds the Hospital grounds, and the other already mentioned, that at least £170 has been added to our expenditure. Indeed, since by dismissing each patient three days sooner, 372 patients more might have been accommodated at the same cost—the sum of £246 paid to the Royal Infirmary for the treatment of patients whom we could not receive, may be taken as a still further additional expense incurred by the Police Board for the *prevention* of infectious disease. The question when a fever convalescent ceases to be infectious is difficult of determination. *Practically, i.e.*, by well ascertained cases of the communication of fever by convalescents, it is by no means easy to decide when this has really occurred, and when the reappearance of the disease is not merely a repetition of the circumstances which led to the primary outbreak. Many instances could be adduced of the reappearance, at long intervals (three weeks or more), in the same locality and family, of fever, when there has been no return of convalescents, and when the fact of reappearance might more reasonably be regarded as militating against the efficiency of the disinfection and other preventive measures employed at the seat of the outbreak. It seems to me that anyone who knows how filthy the poor of our large cities are in their persons, and who has observed how distinctly their foul odour can be smelled, even when we pass them in the street in the open air, cannot have far to look for a source of repeated outbreaks of infectious disease, if the bedding and body-clothes of the sick only are disinfected, while those who are still going about, apparently well, are permitted to carry back with them the fever-poison in their own persons and habiliments. At any rate this is a much more probable

source of infection than the person of a fever convalescent, washed with carbolic acid soap, clad with thoroughly disinfected clothing, and dismissed from Hospital after residing there on an average above three weeks, for some ten days of which he has been walking about the Hospital grounds. *Theoretically*, on the other hand, if asked when I should expect a fever convalescent to have lost the power of infecting others from the exhalations of his own body, I should reply when his various bodily functions are restored to healthy action, and when he has regained some measure of physical strength, not necessarily his full vigour, but sufficient to enable him to walk a few miles with comfort. It is, however, necessary to observe that infectious diseases differ one from another in infecting power, as in other characteristics. The virus of Small-pox and of Scarlet Fever is much more tenacious of life than that of Typhus or of Enteric Fever. Still, I believe that this property belongs more to the germs or infecting medium (whatever it may be) as conveyed during the disease to clothing and other material objects, than to their continued activity in the body of the individual. It is hardly possible that *after* an attack of any of these diseases, a thoroughly healthy person can carry about, in his own tissues, the germs of disease. They may be in his clothing, but scarcely in the substance of his body in a communicable state. The practical question, therefore, in my opinion, becomes one of disinfecting the "belongings" of the individual. This being done, and the individual being restored to health, I believe, so far as he is concerned, the disease is "stamped out." Hence it comes that when, as in the lower animals, we can also slay the individual, the Gordian knot is cut. If we can retain the individual life, and yet slay the disease, we accomplish both something more difficult and better as a perfect solution of a scientific problem.

The latent period of Typhus, and indeed of all such diseases, is a fact allied to the subject of the above remarks. It must be remembered that from the date a person shivers

and becomes ill of Typhus, you must go back for about a week or ten days for the date of infection. The poison has been lying dormant in the system during that period. Cases but rarely occur in which, just as if we had given a dose of poison and marked the hour and then watched for the appearance of the symptoms of poisoning, we can date such an event as sleeping one night with a fever convalescent and then note the first fever-symptoms, and so prove a latent period. I am certain, however, from various stray observations, that nine days is about the average latent period of Typhus. Dr. Murchison comes to the same conclusion. Again, Typhus patients are with great regularity in the eighth day of their disease when admitted to Hospital. All save a fraction of the cases have gone as far as from the sixth to the eighth day. It is quite certain, therefore, that for the date of infection we must go back from the date of appearance of any case of fever in the books of the Hospital, or of the Sanitary Office, at least a fortnight; and if we go back from the date of "invasion," or active outbreak of the disease, we will find the date of infection at least a week previous. On these grounds, no case of fever, arising even where convalescents have returned home within these periods of a fortnight from the date of admission or a week from the date of invasion, can be ascribed to those convalescents. Of course there is also a reasonable limit in the other direction.

Individual susceptibility varies, but not to a very marked extent. The staff of a Fever Hospital unfortunately provides abundant material for the accurate determination of these questions. We have healthy persons brought, in exactly similar circumstances, under the influence of a poison; or, if the circumstances differ, the difference is known, and the result of the variation can be noted. In my first Annual Report (p. 38) I said—"It is remarkable to find the close agreement in the length of time different systems, under similar circumstances, can resist the disease. * * * They [the nurses] usually are attacked in between twenty and thirty days; but if they tide over that period they become

acclimatized, so to speak, and may remain secure for two or three months." This conclusion has on the whole been remarkably confirmed by the experience of the four following years. The data are given in Tables VI. and VII. for these years, and a similar Table for 1865-66 will be found in my first Report. In these five years 26 nurses, 7 scrubbers, the gate-keeper, under-porter, van-driver, domestic servant, and one assistant medical officer—in all 38 persons—have been infected. The facts regarding the nurses are most valuable, as their duties, diet, &c., are all so much alike. They fall into two very distinct classes. One class, numbering 21, withstood the Typhus poison for periods ranging from 10 days to 37 days, and giving an average of 25 days. The other class, numbering 5, withstood the Typhus poison, in exactly the same circumstances as the others, for periods ranging from 47 to 118 days, and giving an average of 84 days. The woman who was 118 days exposed is thin, not at all robust or florid, but wiry, aged 32, and served in the same ward as several of the others who gave way in from two to three weeks. The scrubbers furnish data scarcely so pure, as, although their duties do not lead them into close contact with the patients, still they are employed occasionally as substitutes, when they are as much exposed as the nurses: yet they very rarely live for 16 hours out of the 24 in a fever atmosphere, as nurses do. Their average period of resistance is consequently much longer—49 days—and looking at the individual periods with the knowledge of the extent to which each scrubber had been employed as a nurse's substitute, there is an evident relative approach to the nurses' shorter period. The only scrubber who was never, or almost never, employed in any other way did not fall ill for 95 days. The gate-keeper and assistant medical officer, who much resemble the nurses in the degree of exposure, resembled them also in their period of resistance—viz., 28 days and 27 days respectively. It is curious to note that the vanman carried typhus patients (about 1500 of them) in his arms out of their houses to his van, and from

thence to the ward, for two years before taking ill. The domestic servant went more or less about the wards for two years before seizure, and was then caught from lending friendly aid to an old nurse who required help with her patients. The matron, who spends some time every day in and about the wards, but without contact with the patients, has not been infected after five years' exposure, though she has never had Typhus. The storekeeper has been at his post for five years, in daily contact with the nurses when getting their provisions, &c., and still retains his health. All these facts concur in proving (1) that where attention is paid to personal and general cleanliness Typhus does not carry far, so to speak, through the atmosphere, and is not portable; (2) close approach to, and contact with, the infected individual and his dirty belongings lead with great certainty, even in the best sanitary circumstances, and in healthy and well-fed people, to an attack at the end of about four weeks in the majority of cases, but not in a few until the lapse even of some months; (3) that individual insusceptibility does not exist, except that which is conferred by a previous attack. As an interesting contrast with our experience of Typhus, I may say that no case of Enteric Fever has ever arisen either among the staff or among the patients beside whom cases of Enteric Fever are treated. These latter have, however, in a very few cases caught Typhus.

Enteric Fever, so far as it appeared in Hospital, was scarcely so prevalent this year as last, there being 77 cases as compared with 91. In Table No. V. these cases are classified according to age. The majority were between 10 and 30 years of age. The mortality was only 6·4 per cent. The *average residence* of those who recovered was 45 days, of those who died 11·6 days, and over all cases, 31 days. The cases were for the most part quite sporadic, being scattered over 36 of the 74 Sanitary Districts. This, as I have previously pointed out, is happily our general experience in Glasgow. Still when we look back over the records of previous years, and find sporadic cases occurring year after

year in the same street or district, few though they are in the aggregate, we may still be sure that the soil is more congenial there than elsewhere. Enteric Fever means, says Murchison, "bad drainage and bad drinking water." Glasgow is above suspicion in the latter respect, so we must look to the bad drainage for the explanation of these local proclivities. During last year seven cases came from Springbank Sanitary District and five from Cheapside, there being in the majority of the other districts only one, in many none. *These districts always head the list in the same way.* In Springbank, Oakbank Street and Lyon Street supply most of the cases; and in Cheapside District, Anderston, Piccadilly Street.

Relapsing Fever.—The appearance of this disease in the records of the Hospital is, in a medical and general sanitary aspect, the most interesting feature of the year. Although it only reached us at the end of the Hospital year, and only 19 cases have to be reported upon, it comes within the scope of the present Report to make a few remarks upon the history and habits of this disease. The epidemic prevalence of certain of the infectious diseases in a community has a distinct social and sanitary meaning. Thus we are told by Murchison:—"The prevalence of Relapsing Fever is connected with extreme destitution in a more intimate degree than even that of Typhus;"* and by Warburton Begbie, "this disease is peculiarly the fever of the vagrant and the unemployed."† These statements were quite confirmed by the circumstances surrounding the present reappearance of Relapsing Fever in Europe. These can hardly be described better than by quoting the title of a pamphlet published in 1868, by the well-known Prof. Virchow of Berlin:—"On Famine Fever,‡ and some of the other cognate forms of Typhus; a Lecture held for the benefit of the sufferers in East Prussia, February 9th, 1868." The Prussian province of Silesia was then the chief seat of the "Famine Fever," as it was in 1847, when it also appeared

* Report of the London Fever Hospital, 1868, p. 10.

† Article "Relapsing Fever," Reynold's System of Medicine, Vol. 1.

‡ "*Die Hunger-pest*" is the expressive German word.

in Ireland, the companion of the potato famine. We are told that there is a remarkable social parallel between the Irish and the inhabitants of Silesia. All the medical men who have written about this epidemic of 1868, in the German Medical Journals, refer most pointedly to the dirt and destitution which characterized its victims. Relapsing Fever seemed to sift out and confine itself to the ill-nourished, ill-housed, and especially to tramps, in the population of the cities, with almost as much certainty as fire follows a train of gunpowder. This was observed in Breslau, the capital of Silesia; and in Berlin, where only comparatively few cases occurred, they were still of the very poorest of what is called the "floating population" of a city.

The history of the future progress of the disease is interesting. On the 4th July, 1868, the first case of Relapsing Fever which had been seen for 14 years was sent into the London Fever Hospital from Whitechapel. "The girl was of Irish birth; but had resided for eight years in London, and was not in a particularly destitute condition." The mystery was, however, solved by the admission in a few days, from the same district, of "a Polish Jewess, aged 32, who could not speak English." Other cases were treated, both at the London Fever Hospital and in the German Hospital, during that summer, all from Whitechapel, the majority being Polish Jews. "It is probable, therefore, that * * * the disease had been contracted from Polish immigrants."* There is here an apparent interruption of the chain of communication. So far as the London Fever Hospital is concerned, for nine months no other examples of the disease were observed there. But in May, 1869, it reappeared among the native poor, and gradually assumed, as the year advanced into winter, the proportions of an epidemic. Why did this not occur in 1868? I quote in answer the following newspaper paragraph:—

"PAUPERISM IN LONDON.—In the second week of December (1869), there were 150,402 paupers in the Metropolis, or an increase of 7398 upon the number in the corresponding

* All quoted from London Fever Hospital Report for 1868.

period of last year. Of these, 36,690 were in the workhouses, 113,712 were in receipt of outdoor relief. The increase is almost entirely accounted for by *the augmenting number of outdoor poor*, for there were only 49 more in the workhouses than at this time in 1868. Compared with the second week of December, 1866, there are now nearly 40,000 more paupers in the London Unions, and of these 3200 are indoor poor."

This was the state of matters when the epidemic of Relapsing Fever was at its acme in London. Its whole strength was expended upon the North and East Districts of the Metropolis, where the destitution was most notorious. There can be little doubt that this fever lurked about those districts until the enormous increase of pauperism afforded the soil in which it could fructify.

Those who treated Relapsing Fever in London in 1869 are unanimous in their testimony to the extreme poverty and misery of their patients. Thus Dr. Murchison says of those admitted to the London Fever Hospital: "With rare exceptions, the patients * * * had been in a deplorable state of destitution, far greater than that of the average of Typhus patients. Even the nurses of the Hospital were strongly impressed with this fact. A large proportion of the entire number were 'tramps,' who had travelled long distances in search of work, and many of whom appeared to arrive in London with the fever upon them."* Dr. Ross, Medical Officer of Health for the District of St. Giles, also observes: "Relapsing Fever prevailed exclusively among the lowest classes of the population—the ill-fed, the ill-clothed, the ill-housed."†

Two circumstances favour the rapid spread of this fever when it has once reached any country—1st, The fact that its principal victims are "tramps," who walk long distances and pass from lodging-house to lodging-house; 2nd, the fact that, in the interval between the primary attack and the relapse, the

* London Fever Hospital Report, 1869.

† Report on Relapsing Fever in St. Giles' District, 1869-70.

patients regain sufficient bodily vigour to enable them to migrate. This accounts for its rapid transportation to England and Scotland. In the beginning of 1870 it was observed in Manchester; in February it appeared in Edinburgh where it had not been seen since 1855, and in March it reached Glasgow. From an interesting paper by Dr. Claud Muirhead, in the July number of the *Edinburgh Medical Journal*, we learn that the victims of Relapsing Fever were *not* particularly characterized by evident privation, and that they have been so far but few in number. Dr. Muirhead endeavours to argue from this that destitution is not so essential to the existence of Relapsing Fever, as experience elsewhere seems to me without doubt to prove. But the very limited extent of the disease in Edinburgh entirely invalidates his reasoning. Relapsing Fever will, on his own showing, and as the experience of nurses and medical men in attendance upon the sick only too amply proves, attack the healthiest and best fed, if exposed sufficiently. It will not, however, become epidemic among such, so that the present history of Relapsing Fever in Edinburgh does not upset but confirms all previous experience, by showing that there is no unusual destitution among the poor of that city. ••

The appearance and social condition of the first victims of Relapsing Fever in Glasgow were quite in accordance with universal experience. On 16th March, 1870, the inmates, four in number (a man aged 50, and three sons), of a room at 7 Muirhead Street, Gorbals, were admitted to this Hospital suffering from a fever which soon declared itself to be Relapsing. On the 28th a boy was admitted from the same number with the same disease. These were the first cases seen in Hospital in Glasgow. There is every probability that the first family (the M'G.'s) were the very first in the City. They were miserably-clad, hollow-cheeked, and wretched in bodily condition. I visited the locality with the District Inspector. The M'G.'s house was shut up, all its inmates being in Hospital. That from which the boy John S. was removed, I found occupied by his mother, her infant, and a younger son.

The woman was so insufficiently clad, that she held about her person during my visit what seemed to be a bedcover. There was not "a stick of furniture" in the house. The only bedding was a bag of straw, on which the infant was sleeping, covered with a ragged towel. The mother was gaunt, sallow, and dirty. The husband, I was informed, is a drunkard. Minute inquiry was made into the origin of the fever, and we got at once an account of a man who walked from Bathgate, and was allowed to sleep in M'G.'s house, where he became ill, and lay during his illness, which was marked by great thirst and perspirations. He had been ill in Bathgate, and came primarily from Edinburgh. It is therefore probable that this man caught Relapsing Fever in Edinburgh, had his first attack in Bathgate, walked in the non-febrile interval to Glasgow, had the Relapse in the house of these M'G.'s, and so planted the disease there. The family of J. S. was intimate with that of the M'G.'s, and no doubt were infected by the intercourse of the boys of the two families.

The ultimate development of Relapsing Fever in Glasgow remains to be seen.* The soil is unfavourable for it. The pauper rolls of the parishes of Glasgow show that there is much less poverty in the community than there was last year. Labour is abundant, from the variety of manufactures to be found in Glasgow; so that, when one fails, recourse can be had to another by those out of employment. Whatever overcrowding there may be will, however, expose those who are not, so to speak, the natural prey of Relapsing Fever to infection, seeing that it is now among us. So far as it has gone the majority of the cases have come from the Central District; and they present such an admixture of the very wretched with the comparatively well-conditioned as we should expect. It is remarkable that most of the fresh centres of infection

* *25th July.*—Up to this date it has steadily increased, especially since the beginning of the current month. Contemporaneously Typhus has become much rarer. Thus, at this moment there are 60 of the former to 30 of the latter in Hospital. Still, nothing has happened to falsify the expectations of the text, that Relapsing Fever will not assume alarming proportions in Glasgow.

have been associated with the reception of lodgers; and that, once introduced in this way into a family, this fever seems to seize all its members with a rapidity and certainty which Typhus rarely exhibits. In no case as yet have the two diseases been associated, or in any way intermingled.

The distinctive peculiarity of Relapsing Fever is of course the *relapse*. The patient is suddenly seized with a violent attack of fever, generally accompanied with recurring perspiration. This passes off with remarkable suddenness, and usually with profuse sweating, about the seventh day. The patient is then left pale, emaciated, and exhausted in appearance—to use a vulgar but expressive phrase, “washed out.” The appetite speedily returns, the patient rapidly regains strength, feels perfectly well, and is able, if permitted, to walk about with ease. But about the fifteenth day from the first access of fever, the relapse occurs: all the previous symptoms return, and the fever prevails as before for another period of six or seven days, passing off in the same sudden manner, usually with profuse perspirations. The patient is left still more blanched and exhausted; but the appetite soon becomes ravenous, and the repair of the bodily waste is rapid in young people, but tedious in the aged. Though not a fatal, Relapsing Fever is a very painful and distressing disease. It is very generally accompanied by severe pains in the limbs, and often in various parts of the body. The patient is throughout the febrile periods manifestly disturbed and miserable, while at the crisis the temporary prostration is excessive, the voice becomes quite puerile, and there is a disagreeable sense of sinking. I believe this obtrusive appearance of discomfort arises partly from the fact that the disease does not invade the brain and benumb the senses; so that whatever painful disturbance of the system it produces is fully felt and displayed. Consequently, to an inexperienced eye, a Relapsing Fever patient, as contrasted with one suffering from Typhus, seems much the worse of the two. The former is brightly flushed, moaning, restless, breathing in a panting manner, and querulous; while the latter is dingy in countenance, dull and

stolid in expression, deaf and stupid, and, if asked how he feels, generally replies, "Very well." As already stated, the main feature of famine fever, as distinguished from Typhus, is the relapse after a non-febrile interval. But for this, the fever runs so high that, if prolonged unbroken as in Typhus for 12 or 14 days, it would almost certainly prove fatal. A rash occurs in many cases, which is often scarcely distinguishable from that of Typhus; but, unlike the rash of Typhus, it is not always present, nor constant in the time of its appearance, is transitory, and never assumes the purple or black hue of the Typhus eruption. As Relapsing Fever is specifically different from Typhus, the one does not afford protection from the other. Indeed, I should expect that Typhus would spread with unusual rapidity and ease among a poor community after being emaciated and broken in health by Relapsing Fever. The two are, however, congeners, evidently related in their pedigree.

Up to 30th April the total number of cases of Relapsing Fever was 19, of whom one—a frail old man of 70 years—died from exhaustion in the relapse. Of these cases 15 were males, and 4 females. Their *average residence* was 28 days.

Scarlet Fever.—12 cases were treated, and of these two died. They were both moribund when admitted, and died, the one within 12 hours, the other within 36 hours thereafter.

Small-pox.—One case was sent in by mistake and immediately transferred to the Royal Infirmary. See remarks a few lines lower.

Measles.—Two cases were treated and recovered; both were adults sent in as cases of Typhus.

N.B.—With regard to Scarlet Fever, Small-pox, and Measles, I must explain that the numbers treated by no means represent the numbers which might have been treated. During the greater part of the year every ward in the Hospital was given up to the treatment of Typhus. I believe cases of those diseases above-named requiring treatment at the hands of the Board were sent to the Royal Infirmary.

Other Diseases.—These represent the errors in diagnosis

made by the medical men upon whose certificate the cases were admitted. I have this year more cause than ever to compliment the practitioners of Glasgow on their accurate discrimination of fever. The proportion of error was only 77 cases out of 2230, or 3·4 per cent. The percentage of error at the London Fever Hospital last year was 9; and this after the prompt refusal of many of the more obvious cases by the Resident Medical Officer. It is a sad mistake when made, for the poor patient has very probably, by the removal of the hair, the fever mark stamped on him, still worse if on her, and consequently loses work, lodgings, &c. The following is an enumeration of the actual ailments of those persons:—

Disease.	Admd.	Died.	Disease.	Admd.	Died.
Pneumonia,.....	30	5	Brought forward,....	53	15
Cerebral,.....	9	8	Puerperal Debility,....	1	...
Erysipelas,.....	3	...	General Debility,.....	1	...
Bronchitis,.....	2	...	Dysentery,.....	1	...
Primary Syphilis,.....	2	...	Effects of Drink,.....	1	...
Congenital do.	1	1	Catarrh,.....	1	...
Scrofula,.....	2	...	Hemiplegia,.....	1	...
Renal Abscess,.....	1	1	Subacute Rheumatism,	1	...
Jaundice,.....	1	...	Phthisis Pulmonalis,..	1	...
Mania,.....	1	...	Ague,.....	1	...
Lumbago,.....	1	...	Nothing,.....	15	...
Carry forward,.....	53	15	Total,.....	77	15

Many of these were cases of the greatest interest, some being very obscure and puzzling, the majority very serious. This last quality is clearly enough exhibited in the very large proportion of fatal cases, 15 out of 77, or above 19 per cent. Indeed, the gravest forms of disease which the physician has to encounter, are to be found among the miscellaneous cases of a Fever Hospital. Consequently the mortality is always high. Thus, in the London Fever Hospital last year it amounted to 28 per cent. One case of pneumonia died within 14 hours, and one of cerebral disease within 36 hours, after admission.

General Remarks regarding Patients.—Of the 2230 patients treated during the year, 223 were paupers, and 4 paid for admission, leaving 2003 to the charge of the Board of Police. The number of persons who wished admission to our wards for payment was much greater than this; but we were unable to receive them from want of room. None of this class were admitted after June, 1869, excepting a Sub-Inspector of the City Parish, and 2 Roman Catholic Clergymen, on behalf of whom urgent application was made, and to whom it seemed but just to extend the advantages of the Institution, as they had all caught the disease in the discharge of their duty. Of the pauper patients, 34 died and 19 were interred by their parishes; of the others, 267 died, and 60 were interred by the Board of Police, the remainder in each case by the relatives. Exclusive of the Hospital officials, 16 employés of the Board of Police were treated, viz.:—12 constables, one sanitary inspector, and three men belonging to the Cleansing Department. All but one were suffering from Typhus. The Hospital staff supplied 13 cases of Typhus—10 nurses, of whom four died; two scrubbers, of whom one died, and my extra resident medical officer. Their names and other particulars are contained in Table No. VII. I have already referred to our large sick-list, and the sad number of deaths. The youngest nurse who died was a person of thorough respectability, who had just concluded her month's training preparatory to being engaged as a member of the permanent staff. The *pecuniary* aspect of official sickness is one on which it may be worth while to dwell, more especially as it affords a good reason for keeping up a staff of nurses slightly beyond present requirements. It is always to me a vexatious procedure to disperse a trained and fever-proof staff, with the certain prospect of recruiting it again in six months, and again passing through those dismal experiences. When a nurse or other official is taken ill, in the first place, the vacant post must be supplied, and in the next the sick official becomes a patient, not only at the ordinary cost of an ordinary patient, but with the additional cost of continued pay. The pay of

a nurse is 30s. per month, and taking the average period of incapacity for duty at one month, and the cost of treatment to be that of an ordinary patient (both of which suppositions are certainly within the mark), the cost of each case of illness will be £3. Similarly computed, the cost of each sick scrubber will be £2 8s. At this rate the following is the expense on account of official sickness for the past year:—

10 Nurses,	...	...	@	£3	0	0	..	...	£30	0	0
2 Scrubbers,	...	...	,,	2	8	0	...	...	4	16	0
Funeral Expenses,	...	...	...	...	...	...	...	...	3	12	0
Substitute for Assistant,	...	...	...	...	...	...	...	...	13	0	0
Total,									£51	8	0

This does not include the cost of treatment in the case of the assistant. *The sum expended on Nurses seized with Fever last year would keep two Supernumerary Nurses for six months, and still leave a balance of several pounds in favour of the Board.*

The Royal Infirmary Dorcas Society has been obliged, I regret to say, from want of funds, to discontinue their branch at the Fever Hospital. The Matron reports that during the year she has issued 482 articles of clothing to 158 individuals—viz., 299 articles to 96 females, and 183 articles to 62 males.

I have again to express my best thanks to the Chaplain of the Royal Infirmary, Mr. Topping, for officiating at the interment of those officials who died in our service. The Roman Catholic patients are regularly visited by their clergymen, who take that duty in rotation. It has been a source of great benefit to our Protestant patients, as well as to our Nurses, to be visited frequently by an excellent lady, who has been good enough to give her services to the Hospital during the greater part of the year. She has distributed various little books and tracts to these patients, besides picture books and toys to the nursery. Through her, also, we have been provided

with a perambulator, which has been of the greatest service to the babies and young children, who can in this way have open-air exercise in the Hospital grounds, of which they were almost entirely deprived before this opportune gift. I have also much pleasure in acknowledging the kindness of D. Y. Stewart, Esq., in presenting us with three large baskets of grapes, which were much appreciated by the patients.

FINANCIAL STATEMENT.

WORKING EXPENDITURE.

In classifying the items of expenditure connected with the Fever Hospital during the year, I have separated that portion of it which was incurred on account of the operation of the Hospital as it was, from that caused by the addition to the site and buildings thereon, and from the extra expenditure, on stock of bedding and plant generally, caused by the great increase of Fever. It thus appears that 2230 patients were treated at a working outlay of £3334. Of these patients, 227 were paid for, the sum received being £454, leaving as the actual expenditure £2880 for 2003 patients. At the ordinary rate of charge 2003 patients would have cost £4006 if treated elsewhere. The saving to the Board, therefore, amounts to £1106.

As a necessary consequence of the fact that the work of the Hospital has been so very much greater in this than in any previous year, the absolute expenditure has been also greater in nearly all departments. Provisions of all kinds were cheaper this year than last, but the addition of three days to the average residence of patients neutralizes the advantage which might otherwise have been shown from this circumstance.

The following calculations represent the expenditure in various aspects:—

Average Daily Number of Patients,	...	...	127·5			
“ Residence of Typhus Cases,	...	...	21·25 days.			
“ “ Enteric Fever Cases,	...	...	31	“		
“ “ Relapsing Fever Cases,	...	...	28	“		
“ “ All Cases,	...	...	21	“		
					£	s. d.
“ Daily Expenditure,	$\frac{£3334}{365} =$	...	...	...	9	2 8½
“ “ Cost of Patients,	$\frac{£9 \ 2 \ 8½}{127·5} =$	...	...	...	0	1 5 0·77
“ Cost of Typhus Case, (1s. 5d. 0·77 farthings), × 21·25=					£1	10 5½
“ “ all Cases, (1s. 5d. 0·77 farthings), × 21 =					1	10 1

At page 51 is given my customary “Classification of Expenses with regard to Patients.” The increase is of course not proportionate in all these items. Thus the official expenditure is only about one-third greater, and the cost of conveyance to Hospital is nearly the same, because the increase of patients merely gave more work to the same man and horse. The only absolutely correct elements of comparison are given in the following Table:—

		Average Expense of the Hospital per day.				Average Expense of a Patient per day.				Average Expense of Treatment of a Patient.			
		£	s.	d.	q.	£	s.	d.	q.	£	s.	d.	q.
Indirect.	Direct.												
	{ Food,.....	2	8	11	0·00	0	0	4	2·41	0	8	0	2·61
	{ Stimulants,.....	0	10	9	0·36	0	0	1	0·05	0	1	9	1·05
	{ Medicines,.....	0	5	4	0·14	0	0	0	2·00	0	0	10	2·18
	{ Official,.....	3	16	1	3·10	0	0	7	0·66	0	12	6	1·86
	{ Conveyance,.....	0	3	8	1·76	0	0	0	1·39	0	0	7	1·19
Indirect.	{ Firing, &c.,.....	1	2	6	1·56	0	0	2	0·48	0	3	8	2·08
	{ Various,.....	0	15	3	1·91	0	0	1	1·76	0	2	6	0·96
Totals,.....		9	2	8	0·83	0	1	5	0·75	1	10	0	3·93

The “direct” expenditure is that part of the annual outlay which strictly depends upon the number of patients; while the “indirect” is that which, while slightly dependent on the number of patients (as in the “official” item), is also partially dependent simply on the existence of the Hospital, and in no respect is purely governed by the number of patients. If we

refer to the Table given at page 27 of last Report, and compare the items of "direct" daily expenditure per patient during five years, it will be seen that the cost of Food, which was 4½d. per day, is one farthing less this year than the lowest of the preceding four years; that Stimulants have cost more this year than in any previous year, and that Medicines have been in excess as compared with two of those years, but less as compared with the remaining two. Food, Medicines, and Stimulants, were provided at the cost of 6d. per day, or during the 21 days of average residence, for 10s. 8¼d.

EXPENDITURE OTHER THAN WORKING EXPENDITURE.

At page 52 I have given details of various large items of expenditure in connection with the Fever Hospital, not chargeable as ordinary working expenditure, but arising in great part from the recent extension of buildings, plant, &c. The first item is "Permanent (annual) and Extraordinary Expenditure on Hospital before Extension," amounting to £678, and including Feu-duty, which I call "Permanent (annual)," because it arises simply from the existence of the Hospital, not from its working (See Report 1867-8, p. 21). The second item is "Erection and Furnishing of New Dormitories for Nurses," and amounts to £216. The third item is "Erection and Furnishing of New North Pavilion," £1066. The payment for "Erection" is only to account, and there are other considerable amounts under this head which have not yet been paid.

The total Expenditure on account of the Fever Hospital in 1869-70 is therefore as follows:—

Working Expenditure,	£3334	
Less Receipts from Parochial Boards, &c.,	454	
	<hr/>	£2880
Permanent (annual) and Extraordinary Expenditure on		
Hospital before Extension,	678	
Erection and Furnishing of New Dormitories for Nurses,	216	
Erection and Furnishing of New North Pavilion, ...	1066	
	<hr/>	
Total, ...	£4840	
	<hr/>	

TOTAL EXPENSE OF HOSPITAL TREATMENT OF FEVER,
1869-70.

It may be useful, although it is beyond my province, to complete the Statement of the Expense of Hospital Treatment of Fever for 1869-70. To do this, two items must be added to the Expenditure of the City of Glasgow Fever Hospital; the expense of reconstructing and furnishing the Royal Infirmary Washing-houses as Temporary Fever Wards; £504; and the sum paid to that Institution for the Treatment of Fever, £246. It is right to mention that part of the former sum paid for Bedding will ultimately benefit the Fever Hospital, as it has received that Bedding into its reserve stock.

Total Expenditure on Account of Fever Hospital,	...	£4840
Expenditure on Royal Infirmary Washing-houses,	...	504
Paid to Royal Infirmary for Treatment of Fever, ...	...	246
Total Expense of Hospital Treatment of Fever, 1869-70,		<u>£5590</u>

APPENDIX TO REPORT.

TABLES REFERRED TO IN REPORT.

ABSTRACT OF WORKING EXPENDITURE.

EXTRAORDINARY EXPENDITURE.

TABLE No. I.

*Monthly Admissions, Dismissions, and Deaths from all Causes,
during Year 1869-70.*

MONTH.	Admitted.	DISMISSED.		NUMBER IN HOUSE.		Average Number in House.	Number of Nurses on Pay-Sheet.
		Well.	Died.	Highest.	Lowest.		
1869.—May,	218	171	37	122	99	111	14
June,	209	174	31	138	116	127	17
July,	182	166	36	133	92	113	15
August,	203	146	26	147	99	123	15
September, ...	186	156	18	149	106	128	15
October,	191	180	19	149	140	145	16
November,	187	178	21	142	126	134	17
December,	185	159	20	145	127	136	18
1870.—January,	195	173	21	146	131	139	17
February,	171	144	31	144	127	136	18
March,	177	158	20	137	98	118	18
April,	126	133	24	131	98	115	19
Total, 1869-70,	2230	1938	304				
“ 1868-69,	1240	1022	171				
“ 1867-68,	969	832	96				
“ 1866-67,	547	478	79				
“ 1865-66,	1318	1145	139				
Grand Total,	6304	5415	789				

TABLE No. II.

*Monthly Admissions of various Diseases, with number of Deaths from each,
after Treatment.*

MONTH.	TYPHUS.		ENTERIC FEVER.		RELAP-SING FEVER.		SCARLET FEVER.		SMALL POX.		MEASLES.	FEBRICULA.	OTHER DISEASES.		TOTAL.	
	Admd.	Died.	Adm.	Died.	Admd.	Died.	Adm.	Died.	Admd.	Died.			Adm.	Died.	Adm.	Died.
May,	203	36	1	...	...	...	...	...	...	...	...	2	12	2	218	38
June,	201	27	...	...	...	...	...	...	...	...	1	...	7	...	209	27
July,	158	37	11	1	...	...	1	...	...	...	...	3	9	1	182	39
August,	181	23	14	2	...	...	1	...	...	...	1	2	4	...	203	25
September, ..	163	14	13	1	...	...	5	...	...	...	...	3	2	...	186	15
October,	170	17	9	1	...	...	4	1	...	...	...	1	8	1	191	20
November, ...	173	21	5	...	...	...	...	...	...	...	...	1	8	2	187	23
December, ...	176	20	2	...	...	...	...	...	...	...	...	...	6	1	185	21
January,	183	22	4	...	...	...	...	...	...	...	...	1	7	2	195	24
February,	161	24	4	...	...	...	...	...	...	...	...	2	4	3	171	27
March,	156	21	5	...	7	1	1	1	...	...	...	2	6	2	177	25
April,	98	16	9	...	12	...	...	...	1	...	...	2	4	1	126	17
Total,	2023	278	77	5	19	1	12	2	1	...	2	19	77	15	2230	301
Former Yrs.,	3356	390	227	30	...	...	95	19	57	4	8-1	83	208	33	4074	491
Grand Total,	5379	668	304	35	19	1	107	21	58	4	10-1	102	285	48	6304	792

TABLE No. III.

Statistics of Typhus, 1869-70, showing Number Treated and Stimulated at Quinquennial Periods of Age in each Sex, with Totals and Percentages for each Age.

AGE.	Treated.		Died.		Stimulated.		Total Treated.	Total Died.		Total Stimulated.	
	M.	F.	M.	F.	M.	F.			Per Cent.		Per Cent.
0—4,.....	45	51	...	8	17	25	96	8	9·3	42	43·7
5—9,.....	163	154	2	6	33	42	317	8	2·5	75	23·6
10—14,.....	197	198	2	3	49	65	395	5	1·2	114	28·8
15—19,.....	177	183	14	14	78	81	360	28	7·7	159	44·2
20—24,.....	96	118	13	8	53	59	214	21	9·8	112	52·3
25—29,.....	64	99	8	21	43	59	163	29	17·7	102	62·5
30—34,.....	57	64	13	16	41	41	121	29	23·1	82	67·7
35—39,.....	34	68	12	14	28	43	102	26	25·6	71	69·6
40—44,.....	40	67	21	25	34	58	107	46	42·9	92	86·7
45—49,.....	26	38	12	19	23	34	64	31	48·4	57	89·
50—54,.....	21	23	13	13	20	21	44	26	59·	41	93·1
55—59,.....	7	13	3	7	6	13	20	10	50·	19	95·
60—64,.....	6	8	4	2	6	8	14	6	42·8	14	100·
65—69,.....	4	2	3	2	4	2	6	5	83·3	6	100·
All Ages,..	937	1086	120	158	435	551	2023	278	13·7	986	48·8

TABLE No. IV.

Comparative Table of Mortality of Typhus at Quinquennial Periods of Age in this Hospital.

AGE.	CITY OF GLASGOW FEVER HOSPITAL, 1869-70.			CITY OF GLASGOW FEVER HOSPITAL, 1868-69.			CITY OF GLASGOW FEVER HOSPITAL, 1867-68.			CITY OF GLASGOW FEVER HOSPITAL, 1866-67.			CITY OF GLASGOW FEVER HOSPITAL, 1865-66.			GLASGOW ROYAL INFIRMARY, 1869.		
	Treated.	Died.	Per Cent.	Treated.	Died.	Per Cent.	Treated.	Died.	Per Cent.	Treated.	Died.	Per Cent.	Treated.	Died.	Per Cent.	Treated.	Died.	Per Cent.
0—4,	96	8	9·3	39	4	10·3	62	3	4·83	14	...	...	48	6	12·5	15	2	13·3
5—9,	317	8	2·5	112	...	...	124	...	...	49	1	2·	172	2	1·16	77	2	2·6
10—14,	395	5	1·2	210	4	1·9	152	6	3·94	73	...	5·	245	3	1·22	197	4	2·
15—19,	360	28	7·7	176	12	6·8	116	3	2·58	60	3	5·	204	15	7·3	294	14	4·7
20—24,	214	21	9·8	126	15	11·9	89	8	8·98	53	6	11·3	126	16	12·6	236	39	16·5
25—29,	163	29	17·7	91	15	16·4	64	6	9·37	25	3	12·	78	11	14·1	178	33	18·5
30—34,	121	29	23·1	64	18	28·1	45	4	8·86	27	5	18·5	80	15	18·7	127	38	29·9
35—39,	102	26	25·6	69	17	24·6	43	9	20·93	22	5	22·7	68	15	22·	75	17	22·6
40—44,	107	46	42·9	56	17	31·5	41	11	26·82	23	6	22·2	55	17	30·9	87	22	25·2
45—49,	64	31	48·4	38	16	40·5	31	11	35·48	16	7	43·7	33	7	21·2	55	25	45·4
50—54,	44	26	59·	22	8	36·3	17	5	29·41	8	4	50·	17	6	35·2	47	18	38·3
55—59,	20	10	50·	12	9	75·	7	3	42·85	5	3	60·	18	9	50·	17	8	47·
60—64,	14	6	42·8	5	4	80·	2	1	50·	7	4	57·	5	3	60·	14	6	42·8
65—69,	6	5	83·3	3	3	100·	2	2	100·	1	...	...	4	2	50·	7	4	57·1
70—74, .....	...	...	...	...	...	...	...	...	...	1	1	100·	...	...	...	4	3	75·
75—79, .....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	100·	...	...	...
All Ages,	2023	278	13·7	1023	142	13·8	795	72	9·05	384	48	12·5	1154	128	11·09	1430	235	16·4

TABLE No. V.

Statistics of Enteric Fever from May 1st, 1869, to April 30th, 1870.

AGE.	Treated.		Died.		Stimulated.		Total Treated.	Total Died.		Total Stimulated.	
	M.	F.	M.	F.	M.	F.			per Cent.		per Cent
0—4,.....	1	...	...	...	...	...	1	...	...	...	...
5—9,.....	3	1	...	...	1	1	4	...	...	2	50·
10—14,.....	5	8	...	1	...	6	13	1	7·7	6	46·1
15—19,.....	11	8	...	...	5	3	19	...	...	8	42·1
20—24,.....	12	5	...	2	4	4	17	2	11·8	8	47·
25—29,.....	7	10	...	1	3	6	17	1	5·9	9	52·9
30—34,.....	1	5	...	1	1	3	6	1	16·6	4	66·6
35—39,.....	...	...	...	...	...	...	...	...	...	...	...
40—44,.....	...	...	...	...	...	...	...	...	...	...	...
45—49,.....	...	...	...	...	...	...	...	...	...	...	...
50—54,.....	...	...	...	...	...	...	...	...	...	...	...
55—59,.....	...	...	...	...	...	...	...	...	...	...	...
60—64,.....	...	...	...	...	...	...	...	...	...	...	...
65—69,.....	...	...	...	...	...	...	...	...	...	...	...
All Ages,...	40	37	...	5	14	23	77	5	6·4	37	48·

TABLE No. VI.

List of Officials attacked with Fever from 1st May, 1866, to 30th April, 1869.

NAME.	AGE.	DESIGNATION.	BEGAN DUTY.	TOOK ILL.		RESULT.	
				Date.	No. of Days after Exposure.	Recovered.	Died.
James Maxwell,	50	Under Porter,	February 20th, 1866, ...	July 27th, 1866,	158	...	1
Jane Paterson,	50	Scrubber,	December 20th, 1866, ...	January 14th, 1867, ...	25	1	...
James M'Arthy,	54	Van Driver,	July 3rd, 1865,	February 25th, 1867, ...	1 $\frac{2}{3}$ years	1	...
Elizabeth Stewart,	28	Scrubber,	March 1st, 1867,	April 4th, 1867,	35	...	1
Catherine Carolan,	38	"	March 1st, 1867,	" 12th, 1867,	43	1	...
Mary Munro,	32	Nurse,	June 6th, 1867,	October 2nd, 1867,	118	1	...
Mrs. Finlayson,	45	Scrubber,	November 1st, 1867, ...	December 6th, 1867, ...	35	...	1
Rebecca Forrest,	35	Domestic Servant, ...	December 1st, 1865, ...	" 18th, 1867, ...	2 years	1	...
Mrs. M'Cosh,	38	Scrubber,	June 10th, 1868,	August 12th, 1868, ...	63	1	...
Annie Cobden,	22	Nurse,	March 10th, 1869,	March 20th, 1869,	10	1	...
Mrs. Sorlie,	55	"	December 14th, 1868, ...	" 29th, 1869,	105	...	1
Mary Anne M'Arthur,	30	"	April 1st, 1869,	April 15th, 1869,	15	...	1
Margaret Finlayson,	36	"	March 23rd, 1869,	" 26th, 1869,	34	1	...
Mrs. Dollar,	36	"	April 5th, 1869,	" 28th, 1869,	23	1	...

TABLE No. VII.

List of Officials attacked with Fever from 1st May, 1869, to 30th April, 1870.

NAME.	AGE.	DESIGNATION.	BEGAN DUTY.	TOOK ILL.		RESULT.	
				Date.	No. of Days after exposure.	Recovered.	Died.
Ann Ross,.....	47	Nurse,.....	March 28th, 1869,.....	May 2nd, 1869,.....	35	...	1
Agnes Mitchell,.....	21	"	April 12th, "	" 2nd, "	20	1	...
Margaret Duncan,.....	44	"	" 27th, "	" 26th, "	29	1	...
Dr. M'Kellar,.....	25	Assistant,	July 12th, "	Aug. 8th, "	27	1	...
Mrs. Kevan,.....	50	Nurse,.....	" 6th, "	" 8th, "	33	...	1
Marion Goodlet,.....	25	"	Sept. 27th, "	Oct. 13th, "	16	1	...
Jaue M'Donald,.....	27	Serubber,.....	" 22nd, "	Nov. 7th, "	46	1	...
Mrs. Shaw,.....	44	Nurse,.....	Oct. 22nd, "	" 24th, "	33	1	...
Mrs. Craig,.....	28	"	Nov. 11th, "	Dec. 14th, "	33	...	1
Mary Mitchell,.....	44	Serubber,.....	Oct. 19th, "	Jan. 22nd, 1870,.....	95	...	1
Margaret Young,.....	24	Nurse,.....	Dec. 10th, "	" 26th, "	47	1	...
Mrs. Meikle,.....	55	"	Feby. 1st, 1870,.....	Feb. 20th, "	19	...	1
Mrs. Muir,.....	37	"	" 16th, "	Mar. 16th, "	26	1	...

A B S T R A C T

OF

WORKING EXPENDITURE

OF

THE CITY OF GLASGOW FEVER HOSPITAL,

From 1st MAY, 1869, to 30th APRIL, 1870.

PAGE *							
44.	Provisions, ...	...	...	...	...	...	£1193 18 5½
45.	Wine and Spirits, ...	...	...	...	...	...	176 7 8
45.	Malt Liquors, ...	...	...	...	...	...	42 15 10½
45.	Soda Water, ...	...	...	...	...	...	33 0 6
46.	Household Expenses and Matron's Sundries, ...	...	...	...	...	...	88 15 5
47.	Firing, Lighting, and Cleaning, ...	...	...	...	...	...	367 10 5
47.	Disinfectants, ...	...	...	...	...	...	43 14 0
48.	Medicines, ...	...	...	...	...	...	64 7 3
48.	Printing and Stationery (including printing Annual Report),	36	3	10			
49.	Expenses of Horse and Van:—						
	Provender, ...	...	...	...	£55	13 6	
	Miscellaneous, ...	...	...	...	11	18 3	
							67 11 9
50.	Salaries, ...	...	...	...	...	...	419 0 11
50.	Wages, ...	...	...	...	...	...	556 16 11
50.	Interments, ...	...	...	...	...	...	60 2 6
50.	Repairs and Jobbing Accounts, ...	...	...	...	...	...	81 2 9
50.	Sundry Furnishings, ...	...	...	...	...	...	94 13 10
51.	Miscellaneous Accounts, ...	...	...	...	...	...	7 3 9
							£3333 5 10
	Say, ...	...	...	...	...	...	3334 0 0
	Less Receipts from Parochial Boards and others,						454 0 0
	Actual Working Expenditure, ...	...	...	...	£2880	0 0	

* Details will be found at the pages indicated.

PROVISIONS.

Table showing Quantity and Value of Purchases, Stock at 30th April, 1870, Consumption and Proportion to Patients and Officials, for period 30th April, 1869, to 30th April, 1870.

ARTICLE.	PURCHASED AND IN STOCK.		IN STOCK 30TH APRIL, 1870.		CONSUMED.		PATIENTS.		OFFICIALS.	
	QUANTITY.	COST.	QUANTITY.	COST.	QUANTITY.	COST.	QUANTITY.	COST.	QUANTITY.	COST.
Beef, { Boiling,...	6118 lbs.,...	£ 140 4 1		£ s. d.	6118 lbs.,	140 4 1	5450 lbs.,...	124 17 11	668 lbs.,	£ 15 6 2
Steak, {	3039½ "	113 19 7½		...	3039 "	113 19 7½	1747½ lbs.,	65 10 7½	1292 "	48 9 0
Ham, {	275½ "	9 17 9¾		...	275½ "	9 17 9¾	...	...	275½ "	9 17 9¾
Milk, {	7368 gallons,...	291 13 0		...	7368 gals.	291 13 0	7184 gals.,	284 7 4	184 gals.,	7 5 8
	2167½ "	49 13 5½		...	2167½ "	49 13 5½	1861½ "	42 13 2½	306 "	7 0 3
Cream, {	730 gills,...	3 0 10		...	730 gills,	3 0 10	...	...	730 gills,	3 0 10
	860 doz. 2 lb. loaves,	134 10 8		...	860 doz. 2 lb. ls.	134 10 8	518½ doz 2 lb. ls.	81 3 7	341½ doz 2 lb. ls.	53 7 1
Oatmeal	24 loads, 196 lbs.,...	48 18 5		...	21 loads, 156 lbs.	43 11 7	18 loads, 72 lbs.	36 18 2	3 loads, 84 lbs.,	6 13 5
Potatoes,...	8 tons, 16 cwt., 2 qrs.,	36 2 10		...	8 tons, 8 cwt. 1 qr.	34 3 8	4t. 6c. 3 qrs. 16 lbs.	17 13 0	4t. 1c. 1 qr. 12 lbs.	16 10 8
Barley	13 cwt., 2 qrs.,...	9 13 6		...	13 cwt. 1 qr. 14 lbs.	9 12 0	9 cwt. 3 qrs. 4 lbs.	7 0 6	3 cwt. 2 qrs. 10 lbs.	2 11 6
Rice	10 cwt., 2 qrs., 4 lbs.,	7 7 1		...	9 cwt. 3 qrs. 21 lbs.	6 18 8	9 cwt. 3 qrs. 7 lbs.	6 16 11	14 lbs.,...	0 1 9
Pease,...	3 cwt., 1 qr., 18 lbs.,	2 11 9		...	3 cwt., 18 lbs.,	2 8 3	2 cwt. 1 qr. 21 lbs.	1 17 5	2 qrs., 25 lbs.,	0 10 10
Flour	¾ load,...	1 14 3		...	¾ load, ...	1 14 3	...	...	¾ load, ...	1 14 3
Arrowroot	4 lbs.,...	0 3 0		...	4 lbs.,...	0 3 0	4 lbs.,...	0 3 0	...	...
Cornflour	2 qrs., 3 lbs.,...	1 3 2		...	1 qr., 19½ lbs.,	0 18 10	1 qr., 19½ lbs.	0 18 10	...	...
Tea	757½ lbs.,...	82 18 10		...	676½ lbs.,	74 16 10	455½ lbs.,	50 7 10	...	...
Coffee	33 lbs.,...	2 4 8		...	28 "	1 18 0	½ lb.,	0 0 8	...	...
Sugar,	17 cwt., 0 qrs., 1 lb.,	36 9 8		...	15 cwt. 3 qrs. 14 lbs.	34 0 11	5 cwt. 3 qrs. 14 lbs.	12 12 0	221 lbs.,...	24 9 0
Butter	15 cwt., 1 qr., 17½ lbs.,	95 1 9		...	15 cwt., 5½ lbs.,	92 15 11	8 cwt. 3 qrs. 14 lbs.	54 14 6	27½ lbs.,	1 17 4
Eggs.	175½ doz.,...	76 11 4		...	1739 doz.,	76 2 7	1323 doz.,	57 18 5	10 cwt.,	38 1 5
Fish, {	3½ barrels,	7 10 0		...	3½ barrels,	7 10 0	...	...	6 cwt., 19½ lbs.,	18 4 2
	5 cwt., 3 qrs., 2 lbs.,	7 4 6		...	4 cwt. 2 qrs. 19 lbs.	5 15 0	...	...	416 doz.,	7 10 0
Vegetables,...	...	22 8 9		...	...	22 8 9	...	...	3½ brls.,...	5 15 0
Liebig's Extract,...	61½ lbs.,...	29 4 3		...	61½ lbs.,...	29 4 3	61½ lbs.,	10 0 0	4 cwt. 2 qrs. 19 lbs.	12 8 9
Pepper,	11 lbs.,...	0 4 11		...	5 lbs.,...	0 2 2	5 lbs.,	29 4 3	...	...
Mustard,	158 lbs.,...	6 12 8		...	104 lbs.,...	4 6 8	104 lbs.,	0 2 2	...	...
Sundries in Gro-	...	2 7 8		...	...	2 7 8	...	4 6 8	...	...
cer's Account,...	...	2 7 8		...	...	2 7 8	...	2 7 8	...	...
		1219 12 5½		25 14 0		1193 18 5½		891 14 7½		302 3 9¾

WINE AND SPIRITS.

ARTICLE.	STOCK LAST YEAR AND PURCHASED. Quantity.	Cost.	IN STOCK. Quantity.	Cost.	CONSUMED. Quantity.	Cost.
Port Wine,.....	29½ dozen,	£35 6 0	2½ dozen,	£2 14 0	27½ dozen,	£32 12 0
Whisky,	89 gallons,	71 4 0	½ gallon,	0 5 4	88⅔ gallons,	70 18 8
Brandy,	62 galls., 4¾ btls.,	75 9 0	2 galls., 1 btl.,	2 12 0	60 galls., 3¾ btls.,	72 17 0
		<u>£181 19 0</u>		<u>£5 11 4</u>		<u>£176 7 8</u>

MALT LIQUORS.

ARTICLE.	STOCK LAST YEAR AND PURCHASED. Quantity.	Cost.
Ale,.....	192½ dozen pints,	£21 13 10½
Porter,.....	211 dozen do.	21 2 0
		<u>£42 15 10½</u>

SODA WATER.

ARTICLE.	PURCHASED AND CONSUMED. Quantity.	Cost.
Soda Water, ...	136 dozen syphons,	£33 0 6
		<u>£33 0 6</u>

HOUSEHOLD EXPENSES AND MATRON'S SUNDRIES.

MONTH.	BUTCHER.	GROCER.	PETTY CASH BOOK.	TOTAL.
1869.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
May,.....	4 0 9	0 11 3	2 12 9	7 4 9
June,.....	3 7 8½	0 14 0	2 8 8	6 10 4½
July,.....	3 14 11	0 10 8	2 9 11	6 15 6
August,	2 15 2	0 11 10	3 6 3	6 13 3
September,.....	4 9 7½	1 7 10	3 2 0	15 15 8½
October,.....	4 5 6		2 10 9	
November,	3 8 9½	0 11 7	2 13 2	6 13 6½
December,	4 0 1½	0 14 3	4 6 5	9 0 9½
1870.				
January,	3 14 9	0 15 11	2 16 1	7 6 9
February,.....	3 8 10	0 13 10	3 4 4	7 7 0
March,.....	3 17 6½	0 14 8	3 0 7	7 12 9½
April,	4 2 0½	0 11 9	3 1 2	7 14 11½
	45 5 9	7 17 7	35 12 1	88 15 5

MEDICINES.

Amount of Druggists' Accounts during Year,.....	£93	7	8	
Less Cost of "Liebig's Extract," charged to Provisions, and Discount on balance,.....		33	17	8
				£59 10 0
Cotton Wadding,.....	£3	6	0	
Carbolic Acid,.....	0	9	4	
Syrup,	0	10	4	
Charged from Superintendent's Sundries Accounts—Ice,	0	11	7	
				4 17 3
				£64 7 3

PRINTING AND STATIONERY

(INCLUDING PRINTING ANNUAL REPORT).

Printing (including £16 15s. 4d. for Report),.....	£21	0	2	
Stationery,.....	15	3	8	
				£36 3 10

EXPENSES OF HORSE AND VAN.

PROVENDER—

ARTICLE.	PURCHASED AND IN STOCK.		IN STOCK.		CONSUMED.	
	Quantity.	Cost.	Quantity.	Cost.	Quantity.	Cost.
Hay,.....	124 ewt. 1 qr.	£36 5 9	1 cwt. 2 qr.	£0 8 3	122 cwt. 3 qrs.	£35 17 6
Oats,.....	8 bolls,	9 3 6	1 boll,	1 1 6	7 bolls,	8 2 0
Beans,.....	4 bolls,	5 1 3	2 bushels,	0 12 0	3 bolls, 2 bshs.,	4 9 3
Barley,.....	4 bolls,	5 14 0	3 bushels,	0 12 9	3 bolls, 3 bshs.,	5 1 3
Bran,.....	8 bags,	2 9 3	1 bag,	0 5 9	7 bags,	2 3 6
		<hr/> £58 13 9		<hr/> £3 0 3		<hr/> £55 13 6

c

MISCELLANEOUS.—Tolls, Pontages, Boys for holding Horse, and Sundries entered in Vanman's Pass-Book, and charged in Superintendent's Sundries Accounts,..... £9 19 5
Saddler—Sundries, 4 3 10

Less Credited to this Account from Petty Receipt-Book,.....	£14 3 3
	<hr/> 2 5 0
	<hr/> 11 18 3
	<hr/> £67 11 9

SALARIES.

Physician-Superintendent,.....	£140	0	0
Resident Medical Officer,.....	102	0	11
Extra Resident Assistant,.....	104	0	0
Substitute for above during illness,.....	13	0	0
Matron,	60	0	0
	£419	0	11

WAGES.

Storekeeper,	£67	5	5
Gatekeeper,	41	14	3
Vanman,	41	14	3
Under Porter,.....	36	10	0
Fireman,	4	0	0
Cook,	15	0	0
Laundrymaid,	12	0	0
Private Servant,.....	12	0	0
Nurses,.....	287	16	3
Scrubbers,.....	38	16	9
	£556	16	11

INTERMENTS.

Interment of 57 Patients, 2 Nurses, and 1 Scrubber,	57	18	6
“ Dues at Sighthill for Nurses,.....	2	4	0
	£60	2	6

REPAIRS AND JOBBING ACCOUNTS.

Plumber,.....	£44	9	9
Glazier,.....	0	17	10
Smith,	0	10	6
Slater,	4	5	6
Chimney Sweep,.....	1	0	3
Road Contractor,.....	0	15	2
Repair of Cooking and Washing Boilers,.....	12	9	3
Coachbuilder for Repair of Van,.....	15	10	6
Clock Maker,.....	0	5	0
Cutler,.....	0	19	0
	£81	2	9

SUNDRY FURNISHINGS.

Brushes and Cordage for Bedsteads,.....	£6	1	0
Waterproof Sheeting, &c.,.....	6	15	0
Clothing for Convalescents,.....	13	18	2
Upholsterer,	22	9	2
Pottery,.....	5	6	10
Sewing Material,.....	2	5	7
Window Blinds,.....	5	16	0
Optician,	3	2	10
Carry forward, ..	£65	14	7

Brought forward,.....	£65	14	7
Vanman's Great Coat,.....	1	12	0
Shroud Cloth,.....	5	10	3
Wright,.....	0	4	5
Cutlery,.....	2	8	7
Ringers and Clothes Basket,.....	1	13	0
Hardware,	16	17	0
Glass,.....	0	14	0
	<hr/>		
	£94	13	10
	<hr/>		

MISCELLANEOUS ACCOUNTS.

Advertising for Nurses,.....	£5	17	0
Police Assessment,.....	0	10	0
Superintendent's Sundries,.....	£15	15	4
Deduct charged to Horse and Van Account, £9 19s. 5d.;			
to Medicine Account, 11s. 7d.,.....	10	11	0
	<hr/>		
	5	4	4
	<hr/>		
	£11	11	4
Less Credited to this account from Petty Receipt-Book,.....	4	7	7
	<hr/>		
	£7	3	9
	<hr/>		

CLASSIFICATION OF EXPENSES WITH REGARD TO PATIENTS.

FOOD,.....	£891	14	7 $\frac{3}{4}$
STIMULANTS,.....	<div> <div>Wine and Spirits,..... £176 7 8</div> <div>Malt Liquors,..... 19 18 10$\frac{1}{2}$</div> <div><hr/></div> <div>196 6 6$\frac{1}{2}$</div> </div>		
MEDICINES,.....	<div> <div>Medicines,..... £64 7 3</div> <div>Soda Water,..... 33 0 6</div> <div><hr/></div> <div>97 7 9</div> </div>		
OFFICIAL,.....	<div> <div>Provisions,..... £302 3 9$\frac{3}{4}$</div> <div>Domestic Expenses,.... 88 15 5</div> <div>Malt Liquors,..... 22 17 0</div> <div>Salaries,..... 419 0 11</div> <div>Wages,..... 556 16 11</div> <div><hr/></div> <div>1389 14 0$\frac{3}{4}$</div> </div>		
CONVEYANCE TO HOSPITAL,	67	11	9
FIRING, LIGHTING, AND CLEANING.	<div> <div>Firing, Lighting, and Cleaning,..... £367 10 5</div> <div>Disinfectants,..... 43 14 0</div> <div><hr/></div> <div>411 4 5</div> </div>		
VARIOUS,	<div> <div>Printing and Stationery, £36 3 10</div> <div>Interments,..... 60 2 6</div> <div>Repairs and Jobbing</div> <div>Accounts,..... 81 2 9</div> <div>Sundry Furnishings,.... 94 13 10</div> <div>Miscellaneous (say),..... 7 17 11</div> <div><hr/></div> <div>280 0 10</div> </div>		
	<hr/>		
	£3334	0	0
	<hr/>		

PERMANENT (ANNUAL) & EXTRAORDINARY EXPENDITURE
ON HOSPITAL BEFORE EXTENSION.

Feu-duty on Original Site,.....	£387	18	0	
Drawing Feu-Contract for do.,.....	72	19	8	
Expense of Causewaying Streets, Refunded to Proprietor,	210	3	11	
Additions to Plant,.....	6	18	6	
				£678 0 1

ERECTION AND FURNISHING OF NEW DORMITORIES
FOR NURSES.

Cost of Erection, according to Contract,	£196	5	7	
Bedding,	19	16	0	
				216 1 7

ERECTION AND FURNISHING OF NEW NORTH PAVILION.

Cost of Erection, according to Contract (paid to Account),.....	£800	0	0	
Bedding and Upholstery,	123	13	8	
Additional Stock of Clothing for Patients,.....	74	1	6	
Bedsteads,.....	63	6	0	
Window Blinds,.....	2	9	2	
Clock,.....	1	5	0	
Tinware,.....	1	16	9	
				1066 12 1
				£1960 13 9

EXPENDITURE ON TEMPORARY FEVER WARDS AT ROYAL INFIRMARY.

Cost of Alterations, according to Contract,	£370	10	4	
Bedding,	112	17	6	
Stoves, Boilers, &c.,.....	21	5	2	
				£504 13 0

436 - 1900

Proposed by W. L. Scivener
with the author's Compl.

MILITARY HYGIENE.

A LECTURE DELIVERED AT THE ROYAL UNITED SERVICE INSTITUTION.

(Authors alone are responsible for the contents of their respective memoirs.)

(For private circulation only.)

LECTURE.

Friday, May 27th, 1870.

SIR T. GALBRAITH LOGAN, K.C.B., M.D, Director-General Army
Medical Department, in the Chair.

MILITARY HYGIENE.

By F. DE CHAUMONT, Esq., M.D., Army Medical School, Netley.

THE subject which I have the honour to bring to your notice this day is one of so comprehensive a character, that I might well hesitate before attempting its exposition in a single lecture. I hope, however, to be able to lay before you a few points of interest selected from the wide range of inquiry which the study of hygiene embraces. Let me say a few words in the first place as to the nature and character of the study. Hygiene (or *medical police* as it used to be called in this country) is that branch of study which treats of the laws of health. This is its widest application, and we hesitate to call it a science, chiefly because it is based upon many other divisions of knowledge which are themselves still imperfect; it is, in fact, as yet merely an art by which we apply to the preservation of health the points of knowledge derived from many sources. Its highest aim being to produce the "*mens sana in corpore sano*," it is obvious that nothing which bears directly or indirectly upon health is excluded from it, which is simply tantamount to saying that it includes everything cognisable by man. But, the causes that act and react upon the human economy being practically infinite, to integrate them so as to produce a definite expression which shall be presented as a perfect science is hopeless. All we can hope to do is to approach as nearly as possible to the limit which can never by any possibility be reached. But within this vast circle there are others to which we may profitably confine our attention for the time, and within which we may direct our inquiries to those points in the material well-being of man, which are more immediately under our control. Hygiene, then, is the art of preserving health by removing all that is injurious to life, and supplying all that is needful for life. It aims at rendering life vigorous, painless, free from disease and prolonged, so that a truly hygienic being would cease to exist purely from natural decay. Whether or not it would be possible to lengthen life materially or indefinitely, is a speculation which has often suggested itself, but which we are at present too ignorant to consider.

Hygiene, although but recently placed on a scientific basis, is by no means a new object of human study; it is at least as old as history itself. The ceremonial law of Moses was as perfect a system as the knowledge of the time could produce. Hippocrates embodied in his works the

precepts of many older and now forgotten writers. The life of the Greeks was eminently hygienic. The vast systems of baths built by the Romans, their system of sewers, their mode of water supply and many of their domestic arrangements, proved how far they understood the art of health in peace, while the rules of Vegetius may be even now profitably studied as a guide in time of war. It was reserved for the fanatical asceticism of the middle ages to outrage every law of health, to impose upon the world the idea of the contemptibility of caring for the body, and in fact to accomplish what may be fitly termed the apotheosis of filth! What can we think of a community in which the cleanliness of the body was regarded as a pollution of the soul and the cynosure of all devout eyes was such a hideous mass of filthy insanity as St. Simeon Stylites! The outcome of all this was, that epidemics of a virulence unknown to classic times devastated Europe, and it was only with the revival of letters, when the intellect of Europe began to shake off the shackles of tradition and priestly domination, that a return was made to the paths that had been so long forsaken. Even now with all our boasted science, we are only going back in a measure to the principles already firmly established fifteen centuries ago, but the practice of which disappeared with the fall of the Western Empire. We are even now in some practical points behind that age, and it will be long before we make up for the death-like sleep of a thousand years, during which, as Michelet says, not one in Europe ever took a bath!

Hygiene in its detailed application includes the following points:—the supply of *air, water, food, clothing, shelter* and *exercise*, and the removal of *waste* and *effete* products arising from what source soever. Deficiency in the supply of the above requisites weakens the human frame and induces constitutional diseases; neglect in the removal of waste products favours the development of actual poisons which give rise to epidemic and zymotic diseases. This is of course a general statement requiring modification according to individual circumstances. The relative importance of each cause advances, both as regards rapidity and intensity of effect. Thus, whenever a sudden invasion of disease takes place, affecting a large proportion of a community at the same time, such as an attack of diarrhoea, it is generally due to some poison introduced through the water-supply, and it is seldom that inquiry fails to trace it to this source. On the other hand, the most fruitful source of disease, although less immediately recognisable in its operation, is impure air from defective ventilation. While to bad water we owe in a large measure the propagation of such diseases as diarrhoea, dysentery, cholera, typhoid fever and the like; to bad air we owe pulmonary consumption, pneumonia, typhus fever, scrofulous disorders, and many others, some apparently *generated* by the products of respiration, others unquestionably *favoured* and propagated by a want of proper interchange of air. The importance of this question with reference to the health of the soldier is so great that I propose to ask your attention for a little to the subject. The necessity for good ventilation and the proper methods of obtaining it have been very fully discussed of late years, and it may be considered as pretty

generally admitted that it is a question of the very gravest moment. Death-rate has been shown to increase in a pretty regular ratio with the increase of inhabitants to the square mile, and, putting exceptional causes aside, the most virulent disease and the greatest mortality are to be found in the most crowded localities. Of course among the civil population, poverty and starvation have to be taken into consideration, for among them crowding necessarily means poverty, want of means compelling them to huddle together to save the crushing expenses of house-rent and fuel. Among soldiers, however, it is possible to eliminate these disturbing causes to a certain extent, for the men are selected lives, are, on the whole, well fed and clothed, and are not more exposed in time of peace to vicissitudes of temperature than the civil population. Yet, in spite of these advantages, and putting aside all other deleterious influences, the researches of the Royal Commission of 1857 showed that the death-rate of the soldier at home was up to that time *twice* that of the civil population of the same ages. To what was the death-rate chiefly owing? To two diseases mainly, viz., typhoid fever and pulmonary consumption (or a destructive lung-disease). Now the former is almost entirely due to bad conservancy, that is, neglect in the removal of excreta, and the latter by far the more destructive, to bad air, caused by bad barrack accommodation and deficiency of the supply of fresh air. The whole question was carefully investigated by the Commissioners, and the conclusion arrived at was, that to *bad air* the greater part of the Army mortality in time of peace was due. This was a conclusion for which the public generally was hardly prepared, but its truth was borne out by other investigations, for the same results arising from similar conditions were found to obtain in Continental Armies as well as in our own. Nay, further than this, similar influences were also found producing analogous effects among the lower animals, horses in badly ventilated stables, dogs in confined kennels, and even monkeys in ill-constructed dwellings were found to fall rapid victims to destructive lung disease, having in many cases characters similar to that which carries off so many of our soldiers. Since that time a very great change has taken place, increased accommodation and better means of ventilation having been provided in accordance with the recommendations of the Barrack Commission assembled in the following year, 1858. Imperfectly as these recommendations have been as yet carried out, the results are most encouraging, for the death-rate of the soldier now is reduced to *one-half* of what it was before the Crimean War, a most cheering and gratifying fact, even if we admit that it is not entirely due to this one set of changes. For although numerous causes have undoubtedly combined to bring about this result, yet enough of it may be traced to direct hygienic improvements to encourage us to make every effort to promote further advances in this direction.

I have alluded to the recommendations of the Barrack Commission as having been imperfectly carried out; let me now explain what I mean. The recommendations were that each soldier should have 600 cubic feet of space in barracks, and 1,200 in hospitals, and that the air of this space should be changed *twice* in the hour, thus giving

1,200 cubic feet per head per hour, in barracks, and 2,400 in hospitals. To accomplish this, improved methods of ventilation were recommended and in some cases supplied. I have now made detailed experimental inquiries in a good many barracks and hospitals, and I take this opportunity of laying before you very briefly the results, which may be seen by a glance at the accompanying table. From it you will observe that the rate of change of air is considerably below *twice* in the hour in the majority of instances, so that to provide even the moderate amount of air proposed by the Barrack Commissioners, a much larger initial cubic space would be requisite, or in other words the number of occupants ought to be reduced :—

Place.	No. of times air changed per hour.	Cubic space required per man to give the proposed amount of air, viz., 1,200 in barracks, and 2,400 in hospitals.	Average actual amount supplied, taking the initial space at 600 per man.
Barracks.			
(a) Netley (one room)	3·30	365	1980
Hilsea (brick huts)	3·25	370	1950
Fort Brockhurst	3·00	400	1800
Aldershot (ventilated on principles of Barrack Commission)	2·35	520	1410
Chelsea (no outlet shaft)	2·20	550	1320
.....
Hilsea (room over stable)	1·74	690	1044
(a) Chatham	1·70	710	1020
(a) Netley	1·65	730	990
Fort Elson (no shaft)	1·30	925	780
Gosport	1·20	1000	720
Tower	1·20	1000	720
Anglesey	1·20	1000	720
(a) Milton Bar- racks, Grave- send }	1·18	1010	708
Aldershot (original rooms in permanent barracks)	1·16	1020	696
(a) Chatham	0·80	1500	480
(a) Netley	0·72	1670	432

Hospitals.	No. of times air changed per hour.	Cubic space required to give the proposed amount of air, viz., 2,400 feet per hour.	Average actual amount supplied taking the initial space at 1,200 cubic feet.
Hilsea.....	3·12	770	3744
Herbert..... (Woolwich)	2·20	1095	2640
.....
Portsmouth*... (Garrison Hos- pital)	1·10	2180	1320*
(a) Chatham..... (Fort Pitt)	0·90	2660	1080
(a) Netley.....	0·90	2660	1080
(a) Chatham..... (Fort Pitt)	0·55	4350	660
(a) Netley.....	0·55	4350	660

From these numbers we see that the results contemplated by the Commission have been obtained in only *five* barracks and *two* hospitals, viz., those above the dotted lines in each table. The experiments from which the calculations have been made were carried out by myself, except in those cases marked (a).

I think it will be admitted, on considering these results, that a good deal still remains to be done, even to arrive at the moderate degree of ventilation proposed by the Commission. I am, however, far from admitting that even this would be sufficient to ensure perfectly hygienic conditions, but it would still be a great advance upon the actual state of things. It cannot be too frequently insisted upon, that there is a practical limit to the number of times that air can be changed *without draughts* by ordinary appliances, and that therefore there is a limit to the number of occupants in an air space, which cannot be exceeded without serious danger to health, and even life. Theoretically speaking, the cubic space a man occupies is immaterial, *provided* always that the power of changing the air is unlimited; but it is perfectly plain that, if we cannot change the air more than twice in the hour, four men in that air space will only get each one-half as much as two. Therefore in placing a limit to the cubic space allotted, the possibility of changing the air sufficiently often, ought to be one main element of the calculation. The whole question is one of expenditure, for of course increased cubic space means more extended barrack accommodation, and greater outlay, both for warming and other things. On the other hand, special appliances for ventilation are also costly, and few have as yet given much satisfaction. I do not doubt, however, that we shall arrive ultimately at some means of combining economy with efficiency in this

* In this case the initial cubic space was only 800 feet, so that the air supplied was only 895 cubic feet per hour. Had the wards been full the space would have been only 680, and the amount of air 748 cubic feet only.

matter, and securing to the soldier an habitation which shall be really a shelter, and not a manufactory of disease.

I have dwelt thus particularly upon the question of ventilation as being the most important with regard to the soldier's health in time of peace; it is the most fruitful source of mortality, and the most constantly operating cause of disease. Of course it is not actually of less importance in time of war, but it is relatively less so on account of the presence of so many other causes which unite to attack the health of the soldier. I propose now in the remainder of this lecture to refer to some of the more important of these.

In the first place the actual amount of physical exertion to be gone through is generally greater in time of war. Can we do anything in time of peace to prepare the soldier for this? For we must never forget that the trade of the soldier is war, and that, but for the existence or the possibility of war, he would cease to have a *raison d'être*. Many soldiers pass through their whole career without ever encountering actual warfare, but their whole training is to render them fit for a possible contingency, which, it is true, may never arise, but which the soldier must ever be prepared for. The amount of physical exertion which a man can undergo depends upon many things, the way he is fed, the way he is clothed, the climate he is in, and innumerable other causes which influence his health, morally and physically. Our first care, then, should be to preserve his health at the highest standard in time of peace by supplying an ample and wholesome diet, appropriate clothing, well ventilated barracks, &c. But there still remains the question of training and exercise. How far should these be carried in peace, with a view to the severer trials of war? It is the opinion of some that the amount of physical labour in peace should be strained to the utmost, even beyond what is likely to be required in war, so that when the latter comes it may be found more easy of endurance. It was on something like this principle that the Romans acted, giving their men so much labour in peace time, that they hailed the approach of war with delight, as a season of rest and variety. This was, perhaps, good policy in a nation eminently aggressive, who loved war better than peace, and claimed to make it an object of attraction to its citizens. But the condition of matters is changed at the present day; we keep an army as a necessity, but a necessity which we regret. We do not desire to instil a longing for war into our citizens; we merely wish to keep the instrument of defence in the highest state of efficiency, ready to be used on the instant when the hour of war does come. Under such circumstances it seems to me that it would be an eminent mistake to train the physique of the soldier too far; full and constant occupation he ought to have, but considerably within the limits of extreme physical effort. It stands to reason that a cord perpetually stretched will lose its elasticity, and probably give way when the important moment arrives. I think this is now pretty generally understood, and it receives an instructive illustration from the practice of professional singers, who by exercising their voices within a moderate compass, find that they can the more easily make an extreme effort when the occasion calls for one.

It is not, however, only in the preparation in time of peace that the power for physical effort depends. Man is a machine, just as much as a steam-engine or a galvanic battery; the amount of force he gives out is exactly proportioned to the amount of convertible material he takes in. We can calculate to a grain the force obtainable from the burning of a certain amount of coal, or the oxidising of a certain amount of zinc, and similarly (though, as yet, somewhat less perfectly) we can calculate the amount of force obtainable from the amount and quality of food supplied to the human economy. And this question of food is at the bottom of all the difficulties and disasters of a campaign. It used, in the great war in the beginning of this century, to be a favourite joke of the French soldiers against the English to say that you should never ask an Englishman if he has *fought* well, but ask if he has *dined* well, and then you may be sure he has fought well. Like many a word spoken in jest, there is deep truth contained in this, of whatever nationality the soldier may be. There can be no doubt that armies have performed prodigies of valour under circumstances of great privation, but we may be sure of this, that as Providence has been said to be on the side of the largest battalions, so it will also be on the side of the best fed battalions. This is well put in the report of an experienced French Officer, Colonel Comte de Clonard, commanding the 81st regiment of the Line. He says: “Devant l’ennemi, “il suffit de payer un instant de sa personne; l’exemple des chefs “entraîne, électrise: le drapeau fait le reste. Hors de là, c’est autre “chose, car on ne se bat pas toujours. Dans les marches et les camps, “au milieu de fatigues et d’épreuves souvent nécessaires et glorieuses, “c’est par une bonne ou une mauvaise administration qu’on prépare “les hommes à vaincre ou qu’on les perd. Il faut donc savoir faire “durer le soldat, mais c’est à la condition d’en avoir soin, de lui donner “une alimentation suffisamment réparatrice et parfois *tonique* et *variée*; “il sera dès lors en état de braver impunément toutes les autres “misères de la guerre.” (Chenu, Campagne d’Italie.) Nothing, indeed, lays a man more open to an attack of disease than encountering it insufficiently nourished. On this principle medical men and the attendants on the sick, never, as a rule, visit a contagious case on an empty stomach, if it is possible to prevent it. Now, in providing for the diet of the soldier in war, two important points have to be borne in mind:—

1st. To provide a diet that shall furnish sufficient force for the work required of him; that is, to make the food proportionate to the exercise.

2nd. To provide a diet of sufficient variety to prevent the occurrence of scurvy.

The importance of the first point has been more or less recognized at different times, and it would appear that Hippocrates (the great father of medicine) had very clear notions on this point. It was, however, possible to come to a definite conclusion on the subject only after the sciences of chemistry and natural philosophy had been brought to a high stage of advancement, and after the theory of the conservation of force had been recognized. So long as heat, light,

electricity, chemical action, vital force, &c., &c., were considered separate entities, it was hardly possible to treat the question scientifically, but now that all these are admitted to be mere forms of force, or, perhaps more correctly, to be universally and perpetually convertible into each other, equivalent for equivalent, we are enabled to approach the inquiry with more confidence, and to place our conclusions on a more strictly scientific basis. The question is still obscure, but researches are gradually throwing more and more light upon it. After Liebig had pointed out the two important divisions into which food may be separated, the nitrogenous or plastic, and the carboniferous or combustible, the idea long held almost undisputed sway that the former went to repair the tissues whose waste supplied muscular energy, and that the latter were burned off in the lungs and supplied the necessary animal heat. It was therefore supposed that a certain amount of nitrogenous matter and a certain amount of carboniferous matter being given, life could be sustained in efficiency. Further inquiry showed that these views were only partially true, for it was found that all nitrogenous substances were not equally assimilable, some, notably gelatine, although largely present in the bodies of animals, not being capable of being substituted for albumen or fibrin, and not being nutritious at all except under peculiar circumstances. It was also ascertained that the carboniferous aliments required subdivision into two classes, the fats and the carbo-hydrates (the latter including the starches and sugars) which two classes could reciprocally replace each other in certain proportions, but not entirely. A certain amount of mineral matter in the form of salts, either existing in the articles of diet or added in bulk, was also found to be absolutely essential for the preservation of health. Up to this point, the results ascertained were the following:—

1. Living animals absolutely require nitrogenous matter in their diet.
2. The nitrogenous matter may be animal or vegetable.
3. Most animals require a certain amount of fat.
4. Many animals require, in addition, a certain amount of starch or sugar.
5. All animals require a certain amount of salts.

A second series of conclusions are the following:—

1. Some animals (such as dogs and rats) can live on a purely meat diet.
2. Many animals (carnivora) can live upon meat and fat.
3. Many animals (herbivora) live upon vegetable products only (including nitrogenous matter and starch chiefly, with a small quantity of fat.)
- 4a. *Man* can live on vegetable products only, provided they contain nitrogenous matters, starch, and fat in due proportion.
- b. *Man* cannot live and maintain health upon meat alone, or upon meat and fat alone; he requires the addition of starch.

These being the main conclusions, how were they interpreted? It was considered that the carbo-hydrates—starch and sugar—were chiefly employed in giving out the animal heat; that the fat acted

partly in this way, and partly was stored up in the system against contingencies; that the nitrogenous went to repair the wasted tissue, chiefly the muscles, and that it was the wasting of these that supplied the physical force manifested by the individual. These principles are still defended by Baron von Liebig, Lyon Playfair, and other distinguished men; but, on the other hand, a large number of experiments have been made by men of great scientific acquirements, such as Pettenkofer and Voit, Fick and Wislicenus, Lawes and Gilbert, Haughton, Parkes, and others, which seem to point the other way. If the waste of the muscles were the direct or sole cause of force, then, in cases of excessive exertion, some increased elimination of nitrogenous matter would be observable; but the majority of the experiments seem to show that this is not the case, so much so, that in some cases the elimination seems to be lessened, apparently from the increased exercise causing retention of the nitrogen to provide for the increase in size of the muscles, which usually follows. On the other hand, increased exertion is attended with increased elimination of carbonic acid and vapour of water, showing a marked excess in the combustion of the carboniferous matter in the system. The inference suggested by these observations is, that the body is, in the main, like a steam-engine, and that the force evolved is due to the combustion of the fuel supplied. Therefore, it is to the carboniferous elements of food that the energy is in the main due, and not entirely, as was supposed, to the nitrogenous. The body, however, differs materially from an ordinary machine, for the latter wears away without power of reparation, all we can do being to diminish as much as possible the effects of friction. The former, however, has the power of perpetually assimilating fresh material, and continually repairing the waste as it occurs. It is obvious, however, that in the latter case *some* force must be evolved, just as there is force (in the form of heat chiefly) evolved in the friction of the wheels of a machine, and it is important, therefore, to inquire what becomes of this force, how it is employed, or how it is neutralized. It would seem probable that it is partly employed in the digestion and assimilation of the nitrogenous matters, and partly in the elimination of the waste products. Now, as the balance seems to be kept pretty strictly between the amount of nitrogen ingested and egested in a person well fed and in good health, it is probable that the amount of nitrogenous food necessary for the highest efficiency is that which shall preserve this balance most perfectly under varying circumstances. If the amount of nitrogen be diminished below the proper standard, weakening is produced, with emaciation, the result of more rapid destruction than can be repaired by the fresh material supplied. But if at the same time the amount of physical exertion is proportionately diminished, this lessening of the nitrogen is balanced to a certain extent, and can be endured within certain limits, whilst a comparatively small quantity is required for actual subsistence in a state of complete rest. If, however, exercise be continued, then, as it appears that the muscles while in action appropriate nitrogen, this nitrogen must either be supplied by the food, or be drawn from some other part of the body. In short, in the absence

of a proper supply of food, the active muscles feed upon those parts which are less actively employed, or which are less capable of resisting the depredation. In this way, the heart is apt to suffer; it is itself in constant action, and therefore requires a large supply of nitrogen, which supply is diminished if the voluntary muscles are thrown severely into play without sufficient provision being made by increased food. It is thus evident that an increase of nitrogen is necessary in direct proportion to the increase of work; but the energy necessary for the work is certainly not wholly, nor even mainly, derived from the nitrogenous matter. It is quite true that the body is able to use nitrogenous matter in this way, but generally this is on compulsion, as it were, and when no other material has been supplied; but the loss of force under these circumstances is so great that the system soon becomes exhausted. It is, therefore, necessary to supply material which is easily oxidised, and capable of rapidly yielding up its potential energy under the influence of the changes wrought upon it in the lungs and circulation. This material is supplied in the fat and carbo-hydrates of which I have already spoken. Weight for weight, the fat has about $2\frac{1}{2}$ times the potential energy of the carbo-hydrates, but it is doubtful if it could be used alone in their stead. In the Arctic regions it appears to be capable of being used in this way to a very great extent; but in temperate and tropical climates it does not appear capable of entirely replacing starch. A practical proof of this was given me by an Officer who served in the Cape, and who told me that on one occasion he formed one of a party of men who for three weeks had nothing but mutton (with, of course, the usual amount of fat) and water. They managed to march on this diet, but their strength gradually gave way, and at the end of the time they were barely able to stand. On the other hand, it is doubtful whether a diet composed of fat-free meat, starch, and water, could support life in a state of efficient health. I am not aware of any satisfactory experiments on this point. One difficulty attending such experiments would be that there are few natural starches which are not mixed with other constituents. All the cereals, for instance, contain both nitrogenous and fatty matters. Potatoes and rice probably contain least fat of the natural starchy matters generally obtainable. It would seem, then, on the whole, that we cannot completely replace either starch or fat, and that a considerable quantity of these substances is necessary for health. Further, as the greatest part of the energy necessary for work is due to them, they must be materially increased whenever more work is demanded.

There still remains another class of substances which are essential to health, this is the *salts*, including the sodium chloride chiefly, the potassium chloride, calcium and magnesium phosphates, &c. All these, except the first, are taken entirely in the food, which requires to be sufficiently rich in them to be thoroughly nutritious. The sodium chloride is also present largely in the food, but the requirements of the body necessitate in addition a considerable quantity to be taken in bulk,—and it may be a question whether some of the others might not

also be taken in the same way with advantage. The use of the salts, apart from those such as the calcium and magnesium phosphates which enter into the composition of the tissues, is rather obscure, but one use can be pretty clearly shown, viz., that they materially assist in the oxidation of matters, whether effete or otherwise, and therefore play an important part in the animal economy. Wherever, then, increased energy is demanded, calling for, of course, increased oxidation, a considerable increase of salts must accompany the additional food. Part of this will of course be supplied in the food itself, whilst part must be added in bulk, chiefly the sodium chloride, but perhaps also some of the others, as the potassium chloride, &c.

The point now to be considered is: How much food ought to be supplied? To answer this we must refer to some of the recent experiments which have been made to calculate out the potential energy obtainable from different kinds of food. This is generally stated as so many foot-tons, that is, as equal to so many tons raised through one foot. There are various ways of expressing it, but we may adopt this one as being very generally used and easily understood. It being possible then to calculate how much energy is obtainable from each substance, what we require to know, in order to apportion diet to exercise, is the amount of force required. Now, we can calculate pretty correctly the amount of work done by an individual, and we can also (from Professor Haughton's ingenious researches) ascertain the force expended by the involuntary work of the body, such as the heart's action, &c.,—but there still remains a quantity more difficult to estimate, viz., that required for the evolution of the animal heat and other processes in the system. We can, however, arrive at this experimentally by finding the amount of food which will keep a man alive at rest, considering this as the minimum, and also the amount which will keep him in health at average work. To this latter we can then add proportionately for excessive work. The subsistence diet for a man at rest, calculated from Frankland's figures (Parkes's Hygiene, p. 170), is the following:—

Nitrogen.....	138 grains	} Equal in potential energy to about 2,330 foot-tons.
Carbon	3,030 „	
Salts	219 „	

Now, as the work of the heart, &c., has been calculated at about 260 foot-tons, there would remain 2,070 as absolutely required for the animal heat and other processes at the lowest calculation. But this must be materially increased with every increase of exertion, for the heart works more rapidly, the circulation moves quicker, the chemical changes go on at a greater rate, and more animal heat is wasted. Accordingly we find that the standard average diet for a man at work is as follows:—

Nitrogen.....	316.5 grains	} Equal to about 3,833 foot-tons of poten- tial energy.
Carbon	4862.0 „	
Salts	461.0 „	

If now we consider that a man on this diet is doing a good day's work,

equal to 300 foot-tons, and add to this 260 for the internal mechanical work, we have remaining for the animal heat, &c., 3,273, or an increase over the subsistence-diet of 1,200. It would therefore seem as if for every foot-ton of external work, we ought to add in addition about four more for the internal processes, or we must supply five times the potential energy as food that we expect to obtain as labour. Even this calculation, however, is short of the mark, for we find that the amount increases at a greater rate as the work advances. For a man doing laborious work, that is, equal to about 450 tons per diem, the following is the mean calculated diet:—

Nitrogen.....	450 grains	} Equal in potential energy to about 4,784 foot-tons.
Carbon	6,242 „	
Salts	580 „	

Or an increase of 1,049 potential tons to provide for the additional 150 tons of productive labour; here the increase is seven times instead of five,—so that the addition required as work increases is almost in a geometrical instead of an arithmetical ratio. Let us now examine the diets issued to soldiers, and compare them with the above standards. The ordinary diet of the English soldier at home is the following (as calculated by Dr. Parkes):—

Nitrogen.....	266 grains	} Equal in potential energy to about 3,640 foot-tons.
Carbon	4,718 „	
Salts	354 „	

In this diet the carbon is about sufficient, but the nitrogen is much too small, and the salts are also deficient in quantity. It is right to mention that Dr. Playfair has calculated out the diet as rather more nutritious, bringing up the energy to 3848·5 tons. I cannot help thinking, however, that there has been some difference in the mode of estimate, and that Dr. Playfair has calculated the ration of meat as *without* bone, whereas it is really reckoned including bone. Adopting, then, Dr. Parkes's calculation, we find that the above diet is much below the average of a working-man's standard, and that it is a diet in short on which we could not demand more than a very moderate day's work, say 150 to 200 tons. It is true that in time of peace the soldier's duties are not so arduous as those of the majority of labourers, but still the above diet is insufficient to keep him as he ought to be kept, in the highest state of health. Were the meat ration to be increased, as was at one time proposed, from 12 to 16 ozs., including bone, the diet would then stand thus—

Nitrogen.....	303 grains	} Equal in potential energy to about 3,838 foot-tons.
Carbon	4,918 „	
Salts	379 „	

The salts would still be rather low, but the diet on the whole would be a fair one, sufficient for average work of from 250 to 300 tons—not by any means an excessive estimate, seeing that a march of ten miles in heavy marching order is alone equal to 250 tons. When, however, troops come into the field much more is demanded of them, and the

diet ought to be arranged accordingly. We have to bear in mind that not only is there more actual work, more waste of tissue, bodily and mental, but that also the food is in many cases not so good in quality, and, therefore, incapable of yielding the same amount of potential energy. A war-diet ought to provide for a minimum work of 350 to 400 tons, and be capable of being increased at the shortest notice to 500 tons or more, as circumstances call for it. Such a state of things would be met by a diet of the following proportions:—

Nitrogen.....	350 grains	} Equal in potential energy to about 4,280 foot-tons.
Carbon	5,500 „	
Salts	450 „	

To be increased as circumstances demanded to—

Nitrogen.....	450 grains	} Equal in potential energy to about 5,000 foot-tons.
Carbon	6,500 „	
Salts	500 „	

Now, in scarcely any instance has a war-ration reached this amount. In the Crimea in our own Army the ration *nominally* came to about 272 to 290 grs. of nitrogen, about 4,400 to 5,000 of carbon, and about 280 to 320 of salts; but it was only late in the campaign that this ration was really issued. It will be but too well remembered by those who passed through the first year of that memorable war, how miserably deficient the ration really was. Our own errors and misfortunes at that time have, however, been fully criticised and exposed, and I should fear to weary you unnecessarily by going over the same ground again. But it is only comparatively recently that a full account of the experiences of our allies has been published in the two great works of Dr. Chenu, viz., the Reports on the Crimean and Italian Wars, the latter work containing in an appendix many documents referring to the former campaign. From this we find that the ration in February, 1856, consisted of the following:—

Bread..	..	750 grammes	= 26·50 ounces	} Total 41·04 ounces.
Meat..	..	300 „	= 10·60 „	
Rice ..	..	60 „	= 2·12 „
Sugar	..	20 „	= ·70 „	
Coffee	..	16 „	= ·56 „	
Salt ..	..	16 „	= ·56 „

Fresh meat was distributed four times in ten days, salt meat (250 grammes = 8·8 ounces) on three days, and preserved meat on three days. If biscuit was issued, 550 grammes (= 19·4 ounces) were given. An *occasional* extra ration was issued, according to circumstances, of—

Biscuit	..	100 grammes	= 3·6 ounces.	
Wine	..	$\frac{1}{4}$ litre	= 8·8 „	three times a week.
Brandy	..	$\frac{1}{16}$ „	= 2·2 „	four times a week.

This was equivalent to the following :—

Nitrogen..	..	263 grains	} Equal in potential energy to about 3,348 foot- tons.
Carbon ..	..	4327 „
Salts ..	..	472 „

The additional ration when issued would add about 78 grains of nitrogen, 660 of carbon, and 26·6 of salts, and of potential energy about 400 tons. It is obvious from what has gone before that such a diet was totally inadequate to support men on active service. It is true that additional rations might be issued “à titre de remboursement,” but the pay of the French soldier is very small, and he could hardly have added much to his diet in that way. Besides this, I am afraid that even this insufficient diet existed chiefly on paper, for from the information I could myself gather in conversing with French Officers, it would seem that fresh meat was not as a rule distributed anything like so often as four times in ten days. The insufficiency of this diet was fully recognized and protested against by the Medical Officers, whose remonstrances were, unfortunately, too often disregarded.

In the rations of the Prussian, Austrian, and Russian Armies, the same error seems to prevail as in the French and English, viz., a deficiency of nitrogen and a too great preponderance of starchy matters, a diet, in short, insufficient to preserve men in health during active work.

I have gone in some detail into the *quantity* of food, let me now say a few words as to the *quality* and *kind* of food required. If it be necessary to supply a sufficient amount of food to yield energy adequate for the work required, it is not less essential that the food should be properly proportioned and sufficiently varied. An apparently sufficient amount of energy would be obtained by *calculation* from a diet consisting of pure starch and pure albumen, but such a diet would be practically useless, for it could not long sustain life. There are four essential divisions into which the food requires to be separated, viz., albuminates or nitrogenous substances, fats, starchy or saccharine substances, and salts, and these ought to be in something of the following ratio :—

Albuminates	..	..	..	..	10
Fats	..	..	..	..	6
Starches (or carbo-hydrates)	..	..	..	..	30
Salts	..	..	..	..	2

These are taken in their proportions when thoroughly dried, all the water being completely driven off. Now in the soldier's diet generally there are the following fundamental errors :—

The albuminates are *deficient*.

The fats are *very deficient*.

The starches are *somewhat in excess*.

The salts are *rather deficient*.

Another important error (now somewhat rectified) is the great same-

ness of the diet. Monotony of diet soon causes the food to pall, the appetite is diminished, and the health suffers. The great enemy that armies have to contend with is scurvy; but for the scorbutic taint it would be comparatively easy to deal with the other causes of disease. Even cholera would lose half its terrors in presence of a thoroughly well-fed body of men. We are still very much in the dark as to what the nature of scurvy is, but we know a good deal empirically of the ways in which it is induced; the following have been ascertained:—

<i>Scurvy may be induced</i>	<i>May be cured by the use of</i>
By deficiency of fresh vegetables.	Fresh vegetables, lime-juice, vinegar, salts of vegetable acids,
„ „ of nitrogenous food.	increased nitrogenous food,
Probably also by deficiency of fat.	variety of diet.
By mere sameness of diet.	

The effects of want of vegetables, and the beneficial results from the use of lime-juice, are well known. With regard to the effects of deficient nitrogenous food, various cases are on record, one of the most striking being that of the Perth Penitentiary, as recorded by Professor Christison. Scurvy there came on in consequence of a ration of molasses being substituted for milk from motives of economy. On the milk being restored, the scurvy rapidly disappeared. It is true that here there were salts also concerned, for milk contains them in large quantities. Still I think it may safely be said that scurvy is likely to follow any material or prolonged disturbance of the equilibrium, which ought to be maintained between the different articles composing a diet, and that even with this equilibrium kept up, mere sameness of diet will after a time induce it. Once it is set up in a body of men, the most disastrous consequences follow—dysentery, diarrhoea, typhus, rheumatism, ulcers, &c., are sure to break out, and it besides leaves the system totally unfitted to resist any epidemic poison that may present itself upon the scene, so that cholera and typhoid fever find easy victims. To see the truth of these remarks we have only to look at the history of many campaigns. Scurvy seems to be everywhere, accompanied or closely followed by dysentery and typhus. We shall not be surprised when we bear in mind that the two main causes of these diseases are bad and insufficient diet and crowding, two causes which have almost always been but too generally present in wars. If there is more or less starvation without crowding, fever will always follow, but it is a fever of the relapsing type, and of itself rarely fatal; it, however, weakens the system extremely, and lays it open to attacks of other diseases. But if to starvation we add crowding, then typhus is inevitable.

Now, it is almost impossible, from the nature of things, to avoid crowding in war, as an army must necessarily occupy a smaller proportionate space than the most crowded city. In the Report of the Royal Commission of 1857, some calculations are given on this point. In East London, the most densely populated part of the kingdom, the number of persons per square mile is 175,816. To provide even the amount of space which this represents, we should have to give

300 square yards to each tent; but the area allowed is only 145 square yards, representing about 320,000 men per square mile. In some cases only 50 square yards have been given, representing 930,000 men per square mile, and it has not unfrequently happened that the tents have been pitched as close as they could stand, giving some 22 or 23 square yards for each, or representing about 2,000,000 persons per square mile, supposing that each accommodated only 15 men. Such a condition of matters is bad enough, but if to this we add food, both insufficient in quantity and bad in quality, what can we look for but all the long train of fatal diseases, which have too often decimated, and sometimes annihilated armies? Perhaps the most notable recent illustration occurred in the French Army, during the winter and spring following the taking of Sebastopol. As may be remembered, the French arrangements were somewhat better than ours at first, and they did not suffer during the first winter to so great an extent as we did, but during the second winter the conditions were reversed. Wise by experience, no efforts were spared by our administration to provide proper food and shelter for the troops, and the errors of the first winter,—less the faults of individuals than the inevitable results of an obsolete system, which a long peace had given no opportunity of correcting,—were most nobly repaired. The result was one of the most healthy armies ever known. The sick list was reduced in many cases below 1 *per cent.*, whilst whole battalions were often without a single man unfit for duty. On the other hand, the rations of the French soldier, far from improving, appeared rather to deteriorate, whilst crowding increased with the inclemency of the weather, and personal cleanliness was naturally much neglected. The medical Officers foresaw what would be the result, and strongly urged immediate measures to be taken. As early as April, 1855, Dr. Levy warned the French authorities of the threatening dangers of typhus and dysentery in an epidemic form. In November, 1855, Dr. Baudens, Inspector-General, addressed a letter to the Minister of War, pointing out the insufficiency of the soldiers' diet, the want of fresh vegetables, &c., all tending to produce scurvy, and strongly enjoining the immediate issue of preserved vegetables, condiments, &c. He also called attention to the wretched tent accommodation, and the miserable clothing that the men had to put up with. That these prognostications were but too true is seen by the subsequent letters and reports:—

On the 8th of February, 1856, he writes, "Typhus threatens to assume the proportions of a great epidemic." On the 11th, the number of cases is still increasing, but with the significant fact that as yet no officer (generally well fed and sheltered) had been attacked. By the 28th, fresh cases, at the rate of 150 to 200 per day, were declaring themselves, and several medical Officers had already perished. The rapid increase may be conceived by the following abstract of the total cases and deaths, both in the Crimea and at Constantinople:—

			Cases.	Deaths.
November, 1855	..	..	16	8
December	..	..	775	332

		Cases.	Deaths.
January, 1856	..	3185	1129
February ,,	..	7834	4339

And a most instructive table is added, comparing the French and English forces during February, 1856 :—

FRENCH ARMY (strength 132,000 men).

	Admitted.	Per cent. of strength.	Died.	Per cent. of strength.
Wounded and general patients ..	11,732	8·8	1,190	0·9
Typhus cases	7,834	5·8	4,339	3·3
Scorbutic, &c.	6,772	5·1	349	·26
Total	26,338	19·7	5,878	4·46

ENGLISH ARMY (strength 70,000 men).

	Admitted.	Per cent. of strength.	Died.	Per cent. of strength.
Wounded and general patients ..	3,984	5·7	43	·08
Typhus	0	0	0	0
Scorbutic, &c.	34	·05	0	0
Total	4,018	5·75	43	·08

The death-rate in this ratio would amount in the French Army in one year to 58 per cent., or more than half the force, and this without much severe work, for the fighting was practically over, and the wounded trifling in number. On the other hand the English death-rate would have only been about 1 per cent. per annum, or little over that of the most healthy classes of the civil population. Altogether in the first four months of 1856, the French Army lost from typhus alone about 4,000 in the Crimea, and as many more at Constantinople, including about 40 or 50 medical officers. As regards the losses at Constantinople, these were hurried on and intensified by the crowding of the hospitals, consequent on the increased arrivals of sick from the Crimea. On the 1st of January, 1856, with 869 sick in the Daoud Pasha Hospital, Dr. Garreau reports the sanitary condition to be fairly good. On the 28th of the same month, there were 1,140 sick; from that day dates the rapid increase of typhus, for want of room had rendered it necessary to bring the beds closer together, and so crowd the wards. In short the state of things induced, was exactly parallel to that which prevailed in our own hospitals at Scutari, just one year before.

That we were enabled to show so marked a contrast in the second year was due to two main causes: 1st. To the free circulation at home of the actual truth, and the consequent rousing of public opinion to insist upon adequate measures of relief being adopted; and 2nd. To the fact that the medical department of our Army was an independent body, communicating directly, through its own head, with the Commander-in-Chief. In the French service, on the other hand, where the pernicious system of Intendance prevails, all representations and suggestions have to be filtered through the Intendant-General and his subordinates, the independence of the medical Officer is destroyed, and his spirit crushed. It is true that a right of appeal exists from the Intendant to the General Commanding, but considering that all proposals of promotion or advancement in the Department are made by the Military Intendant, I leave it to the judgment of my hearers to infer how many appeals are likely to be made? It is greatly to be hoped that this evil system will, ere long, be abandoned in France, and the Medical Department placed on a similar footing to that of Prussia.

In criticising the diet usually issued to troops in war, I have not referred much to the individual details. I now wish to say a few words on that point. As Dr. Scriver says in one of his reports—"War rations form a coarse diet, which ere long fatigues the stomachs of the most robust." Even if they were given in sufficient abundance, their sameness and monotony are highly objectionable.

1. *Nitrogen*. A ration of a pound of meat, including bone, would probably be sufficient—provided that fresh and preserved meat were issued as often as possible, and salted meat as rarely as possible. Beef and mutton should be made to alternate as much as can be managed. As one pound of meat, however, would not yield enough of nitrogen alone, a small ration of cheese might be advantageously added, as well as a certain quantity of peas or beans—to be increased as extra work demanded.

2. *Fat*. This has always been deficient, and yet it is one of the most important articles for hard-working men. Indeed a mere increase of fat alone would often be sufficient in cases of extra work. Under any circumstances, a ration of bacon-fat or butter should be issued. It would be a good thing if the use of oil could be introduced into our Army; it is extremely wholesome and palatable, and I believe any prejudice against it would soon be got rid of.

3. *Starch or Carbo-Hydrates*. This ingredient has always been rather in excess in the diet—at least in comparison to other articles; it would be better to diminish it a little, if fat were substituted instead, the potential energy of the latter being as 2·4 to 1 of the former. The best form is fresh bread, which ought always to be used instead of biscuit, when it can possibly be obtained. Potatoes and rice are also exceedingly good forms.

4. *Salts*. These have generally been rather deficient. In addition to the common salt used in bulk, it might be well to add potassium chloride, &c., in small quantities, should there be any difficulty about a supply of fresh vegetables—but it is by these that we ought to

endeavour to introduce them. No effort should be wanting to procure regular supplies of vegetables, either fresh or preserved, as the best safeguard against scurvy. Another article of great value, but much neglected in our Army, is *vinegar*, which should always be freely used in a campaign. It would be an excellent plan to get the soldiers to make salads with oil and vinegar, as a means of introducing both fat and salts into the system. For a salad it is not necessary to have carefully-culled lettuce, or blanched endive, or other garden refinements,—a very excellent salad can be made of many ordinary wild plants; dandelions, for instance, or any vegetables boiled and used cold, such as cabbage, brocoli, carrots, lentils, peas, beans, potatoes,—in short, almost anything that can be digested by the human stomach.

5. *Condiments*. These are of great importance. Mustard and pepper should always be issued, and, if possible, other spices as well. The judicious use of condiments makes all the difference between a grateful and appetising dish and an insipid and repulsive mess.

6. *Beverages*. Unquestionably the best beverages to work on, are *tea*, *coffee*, or *cocoa*, and these should be supplied without stint, and with plenty of sugar to sweeten them. Of course milk cannot be always looked for in a campaign, but when procurable ought to be issued, either fresh or preserved. As to the vexed question of alcohol, I am of opinion that the *spirit* ration is a mistake; but I think that a moderate ration of good *beer* or *red wine* would be beneficial. *Spirits* should never be issued, except on very special occasions, and then only on the recommendation or with the approval of the medical officer.

Tobacco is a substance that should also be supplied in moderation, as I believe most men are the better for a little of it, although, like alcohol, many can do without it altogether. In cases of extreme fatigue, I think great benefit would be derived from a liberal use of Liebig's Extractum Carnis. I know of nothing which so rapidly recruits the exhausted frame. It can be prepared in no longer time than is necessary to get water heated, or it may be taken, less advantageously it is true, cold. But I can conceive no more useful thing than a cup of the *tea* made from it, issued to men going on trench or picket duty on a cold wet night, or starting on a toilsome march. I believe it would do more than anything else towards keeping up their strength and spirits. Similarly, on coming off heavy duty, cold and weary, often too fatigued to sleep, a cup of it would be exactly what would be wanted to restore the balance of the disturbed and exhausted frame.

To sum up then, I would propose as a war-ration some such diet as the following, to be varied as much and as frequently as the ingenuity or opportunity of the commissariat can devise, or as the skill of the cook can accomplish:—

PROPOSED RATION IN TIME OF WAR.

	Gross weight.	Water.	Albumi- nates.	Fat.	Carbo- hydrates.	Salts.	
	oz.	oz.	oz.	oz.	oz.	oz.	
Meat, 1 lb., less } bone, say..... }	12·8	9·6	1·9	1·1	...	0·2	
Bread	20·0	8·0	1·6	0·3	5·9	0·3	
Potatoes	16·0	11·8	0·2	...	3·7	0·2	
Vegetables (as carrots)	4·0	3·4	...	...	0·3	0·03	
Peas or Beans....	3·0	0·4	0·7	0·1	1·6	0·1	
Cheese.....	2·0	0·7	0·7	0·5	...	0·1	
Bacon-fat, oil, or } butter	2·0	0·1	...	1·8	...	....
Sugar.....	2·0	0·1	...	...	1·9	....
Salt	0·5	....	...	...	...	0·5	
Vinegar.....	2·0	1·9	...	...	...	0·1	
Condiments	as required	....	...	...	...	....
Tea	0·5	....	...	...	...	....
or							
Coffee	2·0	....	...	...	...	....
or							
Cocoa.....	2·0	?	0·3	1·0	0·5	....
Beer.....	20·0	17·8	...	...	1·2	0·1	{ and 1 oz. of alcohol
or							
Wine (red)	10·0	8·9	...	...	...	0·1	Ditto.
Totals	86·3	53·8	5·7	4·8	15·2	1·8	1
	to	to	to	to	to		
	74·8	44·9	5·4	3·8	14·0		

This would give of nitrogen, carbon, and salts, about:

Nitrogen....	375 to 390 grains	} equal in potential energy to from about 4,800 to 5,300 foot tons.
*Carbon	5300 to 5930 ,,	
Salts	780	

Such a diet would, if properly varied, be amply sufficient for the ordinary fatigues of war, and might be easily supplemented in cases of extreme exertion. Could such a diet have been regularly supplied during the Crimean campaign, the horrors of the first winter would have been in a great measure spared us, and the ultimate gain, even at a great apparent immediate outlay, would have been enormous in a mere monetary point of view. Of course we should still have had our losses by the enemy's fire, but these are always trifling in comparison with the ravages of disease; besides which, in a truly hygienic force, but few of the wounded ought to die. Disease is the real enemy to dread, and the best weapon to fight him with, is good, abundant, and varied food; this given, our soldiers will easily contend with aught

* Not including the alcohol.

else. It may serve to illustrate what I have said if I state shortly the comparative losses by disease and actual wounds in action at different times.

Crimea. English Army.

Killed and died of wounds.....	4,602
Died of disease	17,580
Total	22,182

The admissions into hospital from wounds, amounted to only 11 per cent., and from disease to 89 per cent.

In February, 1855, at Scutari, the deaths to admissions were at the rate of 467 per 1,000.

In the *first seven months* of the war the mortality was at the rate of 600 per 1,000 per annum.

In the *last five months*, under a hygienic régime, the deaths were at the rate of 11 per 1,000 per annum.

Peninsula.

During the last three years ending in 1814, the sick and wounded amounted to 22·5 per cent. of the strength, thus distributed:—

Wounded	1·5
Sick	21·0
Total	22·5

In the French Army in the Crimea:—

During the *first winter* (November, 1855, to April, 1855), a period of hostilities giving 8,000 wounded, there were 90,000 sick and 11,000 deaths.

During the *second winter* (November, 1855, to April, 1856), a period of hardly any hostilities, giving only 323 wounded, there were 107,000 sick, and 21,000 deaths, of which 10,000 were from typhus.

In contrast to these, we have the examples of two campaigns, short certainly, but in hot countries, and at an immense distance from our resources, which show very different results, viz., those in China and in Abyssinia. In China, during the period of active hostilities, the following were the ratios of deaths:—

Total deaths per 1,000	65·54
Of these were killed and died of wounds ..	12·66

The greater part of the mortality was due to cholera, diarrhoea, and dysentery; but scurvy and typhus were absent.

Again, in Abyssinia, a country quite within the tropics, the results of the campaign were the following:—

Total deaths per 1,000.....	13·0
No deaths from action.	
Total sick admitted into hospital per 1,000 ..	49·8

The health of the troops would have been much better but for the break down of the transport, and the consequent reduction of the rations to mere bread and beef, instead of the excellent and varied diet originally intended.

The happy results—although still falling short of what we should aim at—following the employment of true hygienic measures in these two short campaigns, as well as the wonderfully healthy condition of our Army in the latter part of the Crimean campaign, are highly encouraging, and prove on what sound principles the rules of hygiene are based. Let us only hope that these lessons may not be lost, and that should unhappily the necessity arise for putting to the test again the experience we have so dearly bought, we may not be found trying “how not to do it.”

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[*Private.*

THE EDUCATIONAL ASPECTS
OF
STATE MEDICINE.

BY

HENRY W. RUMSEY, M.D., F.R.C.S.,

etc. etc.



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C

The Author designed a paper much shorter than the following, for insertion in the *British Medical Journal*, as the third of a series on the general question; but he found it impossible to condense what he had to say on its educational aspects, within any space which he could reasonably claim of the most generous editor of a weekly periodical.

He therefore submits these remarks, in the first place, for the perusal of his colleagues on the General Medical Council, intending afterwards, if it should seem right, to publish them.

CHEL TENHAM, *June 19, 1868.*

T H E

EDUCATIONAL ASPECTS OF STATE MEDICINE.

THE necessity for a higher standard of Education and Examination in the Specialities of Public or State Medicine is now, I believe, generally admitted, even by those who may have formed no very definite notion of the manner in which the instruction should be given, the special pursuits followed, and the results of educational work tested.

It is in the hope of aiding the discussion of this question that the following observations are offered by one who has always approached this part of his subject with diffidence, as not having been himself a public teacher or examiner in any branch of science or practice, not even in those, to the administrative relations of which his attention has been long directed.

In the outset, I am ready to admit unreservedly that the elements both of Medical Jurisprudence and of Hygeiology, have been, and are now, taught by accomplished professors in most of our great medical schools and universities, with some success and advantage; also, that much useful knowledge has been thus acquired by a considerable number of medical students; and that what they have thus learnt may not in every instance have been wholly forgotten in the struggles, anxieties, and engrossing pursuits of ordinary practice.

But we may be sure that much of this special instruction

is afterwards lost by all who receive it, and almost all of it is lost by the majority. The practical application of such special knowledge is so rarely called for in the ordinary practice of the medical profession, that even those who are gifted with a retentive memory cannot always recall at will the varied and numerous facts, the experimental processes, the complicated phenomena of reported cases, and the rules of forensic practice.

Also, I frankly admit the importance of such considerations as Professor Christison brought to bear on the question at the last session of the Medical Council. The well-educated general practitioner may have acquired such a knowledge of physics, medical chemistry, botany and toxicology, as enables him to act efficiently and usefully in emergencies to which he may be summoned. He may also be more or less conversant with the medico-legal bearings of accidents and injuries. At all events, he may have learned to observe carefully, and record accurately, the facts and symptoms of any organic lesion coming under his professional care, so as to be prepared to make a clear and intelligible report to any special expert, or to give evidence concerning such facts in court. In his prognosis, as a therapist, he may be able to estimate the probable effects of bodily injury upon the future capabilities, physical or mental, of the patient.

But he ought to be afforded no such excuse, as (in the defect of appointed medico-legal officers) he certainly has at present, for straying from his customary path of duty—too often to his own disadvantage, and generally to the discredit of our national system of jurisprudence.

The higher studies of forensic medicine, as they are laid down in the works of our best living authorities, cannot be pursued by the general body of medical students, to the extent and with the minuteness, which are required to form an accomplished Medical Jurist. To qualify a man for

pronouncing, *more magistri*, or in a Court of Law, upon difficult questions of personal capability, whether of body or mind, causation of disease, constitutional liability, expectation of life, moral responsibility, and many other abstruse points, continually raised in civil or criminal cases, needs a far more extensive and profound acquaintance with medical statistics, biology, psychology, and mental pathology in its physiological relations, than could be fairly demanded of every candidate for the licence to practise. Something more than a smattering of the laws of evidence, some trained capacity to estimate the comparative value of conflicting testimony on events and conditions which concern the health or the safety of the individual or the community, seem to be essential for any one who may be selected as the adviser, or reporter, or assessor in these matters. All this may be fairly termed "Forensic Medicine." But the present system of Medical Education supplies no definitely skilled agency, the Medical Register no guiding information, to assist public bodies and legal authorities in making such selection.

By a similar process of observation, we are led to perceive the utter insufficiency of present methods of instruction in sanitary science or public hygiene,—the connexions of which with medico-legal science are intimate, as in practice the subjects are often inseparable. We thus arrive at the inevitable conclusion that the course of education and the standard of examination generally adopted by medical schools and licensing bodies, by no means qualify the ordinary medical man—able and practically useful as he may be—to investigate, as the very rapid advance of analytical and experimental science requires that he should investigate, the nature and influences of external circumstances—physical and social—upon human life and health.

Time may not be lost in a glance at some of the questions which may have to be solved at any time in every locality. The state of the atmosphere at various altitudes and

under different meteorological conditions; its effects upon living structures; its analysis by various methods. The qualities of the waters, issuing from various strata and soils, running or stagnant; their analysis and purification; and the best sources of public supply. The nature of the soil and subsoil; their composition and geological bases; their effects upon air and water at different elevations. All these again, not merely as elements of climate and natural features of topography, but as modified by the presence and progress of human communities. Most of all, the air: as it may be altered by the movements and the density of population; by the presence of animal life; by the aggregation of domestic animals; by vegetation; by agriculture of various kinds; also, by matters in suspension, such as innumerable spores and germs of the minutest forms of organic existence, some probably identical with or convertible into the specific *contagia* of epidemic or endemic diseases; by excretions and exhalations; by products of combustion; by arts, trades, and commercial processes.

Take, again, the class of questions that come under what Mr. Simon calls the "distribution of disease" in localities; the elements and sources of causation existing in the place, in the community, in the individual; the modes of diffusion or propagation in each epidemic; the measures of arrest and prevention.

To notice, with like brevity, another department of hygiene; how necessary is the skill of both the analyst and the physiologist,—first, for the scientific examination of the various articles of food, beverage, condiment, medicine and poison, supplied to a community, or to certain classes of the population,—secondly, for ascertaining their effects upon the vigour, longevity, constitution, and character of the consumers,—and, lastly, for advising in matters of food-production, manufacture, cooking, and preserving; and in the regulation of dietaries for schools and public institutions.

Where is now to be found a distinct class of men, in or out of the medical profession, capable of fulfilling all these requirements?

Referring to yet another branch of sanitary science, the ordinary courses of Medical Education cannot be said to provide for the acquirement of the special knowledge and skill needed for investigating and reporting, satisfactorily, on the morbid effects of various manufactures, trades, and occupations, either upon the several descriptions of work-people in each—women and children especially—or upon the neighbouring population. And, even if they did so provide, the question is forced upon us, whether the ordinary practitioner is ever in the right position to make such inquiries.

On this point, especially, we see how close is the practical connexion existing between preventive and medico-legal duties. The officer who, as Certifying Surgeon, has to decide, after a conscientious and scientific examination, whether the “child” or the “young person” exhibits the physical signs indicating the attainment of the age prescribed by law for each class,* (no easy matter)—whether the individual is free from disease and bodily infirmity of every kind (here arise questions of hereditary liability),—has also to report upon accidents and causes of disease and injury to workers of both sexes and all ages.

The same doubts and mistrusts apply to existing qualifications when we seek for scientific and impartial inquirers into the sites and modes of human habitation; the conditions and surroundings of dwelling-houses; the results of various degrees of aggregation (overcrowding, as it is called) in different localities, whether towns, or streets and blocks of houses, or separate dwellings.

I will not prolong, as I easily might, this sketch of our

* See “Hints to Certifying Surgeons,” by Mr. George Greaves.

educational necessities and deficiencies in public hygiene, with their resulting social difficulties. How can the former be supplied, the latter remedied?

In the first place, as regards Education. It seems to me of primary importance to require further time and larger opportunities for more advanced instruction in all these specialities.

Without staying to consider schemes of instruction and methods of training in Legal Medicine—perhaps the most difficult branch of medical education—without even mentioning such portions of the literature of that department as every student ought to make himself thoroughly acquainted with,—I proceed at once to Hygeiology, the multifarious divisions of which might, I think, be studied on a more systematic method than that usually adopted by sanitary teachers; for instance, according to Michel Levy's classification into *circumfusa*, *ingesta*, *excreta*, *applicata*, *percepta*, and *gesta*.

A logical order of study need not interfere with the separate practical treatment of each public or social question. Lectures and class examinations should be followed up by experimental work, and very profitably by systematic personal inspection of things and places, with written reports or essays to be submitted for tutorial examination and correction. All this should be accompanied by the study, to some extent, of the older standard writers on health and epidemics, foreign and English, and, more thoroughly, of the best modern treatises, those especially of Dr. Parkes, Dr. Gairdner, and Dr. Mapother. On each topic the student should consult the ponderous, yet most useful and convenient, dictionaries of Tardieu. He should also be expected to read certain excellent monographs.

No works of reference, no single treatises, are of greater value to the student than the admirable series of Reports of the Medical Officer of Privy Council, with the special

inquiries of his Inspectors, who are yearly contributing most valuable additions to Hygeiology and Pathology.

Of scarcely less importance is the study of vital and sanitary Statistics,—the right application of numbers to correctly observed and reported phenomena of life, disease, and death. Dr. Farr's commentaries on the alleged causes of death, as set forth in the periodical reports of the Registrar General, take first rank among the classics of sanitary literature, and should form part of the student's work. [These statistical reports will improve. The Medical Officer of Registration, whom Dr. Farr wishes to be appointed in every district—if he be ultimately educated and examined in State Medicine—would prove the very best local superintendent of the system, and would make these national records of the causes of sickness and mortality thoroughly reliable, and establish with something like certainty the conclusions to be drawn from them.]

The Registers of Scotland and Ireland also, as illustrated respectively by Dr. Stark and Dr. Burke, will be found, in process of time, of proportionate educational value.

The student should be required to take up selected portions of the works above mentioned for the final examinations,—at least some of them for the “pass,”—all, I think, for “honours.”

Here, then, is an amount of work which undoubtedly ought to be prepared by those students who aim at proficiency or distinction in State Medicine, but which cannot possibly be crammed, even by the most approved arts and modes of cramming, into the quadrennium, now very properly required of every candidate for the licence to practise.

Any attempt to enforce upon the whole embryo profession such a curriculum of study and standard of acquirements, as ought to be considered indispensable for the exercise of the more important functions of Public Medicine, will certainly fail. It ought to fail, because it would tend to inflict

irreparable damage on this department of education and practice, and to lower the professors thereof in public confidence.

Several plans and suggestions on the subject are now before us, and cannot fairly be left unnoticed.

Everything which comes from Dr. Parkes deserves the most respectful consideration; for no one is more thoroughly and practically conversant with his topics. Therefore I hesitate, notwithstanding my strong convictions, to express an opinion at variance with that part of his recently-published Scheme of Medical Tuition which concerns my subject. Yet, I am bound to say, after much thought on his able exposition, that the proposal to bring nearly the whole work on these subjects into the fourth Summer Session, seems to me fallacious if not impracticable; and the more clearly so, because this last four months of Medical Education, is to include all the purely *Therapeutical* instruction of the course, as well as attendance on Midwifery cases.

Well may the learned author say of his own project, that the last Summer Session would be "the hardest of all." Too hard, I may add, for any average student; especially hard, in its results, upon the public.

I could not have been furnished with a more cogent argument than that with which my friend has favoured me, in support of my proposal to extend the period of study beyond the quadrennium, in the case of candidates for a qualification in State Medicine.

The special information (I can hardly call it knowledge) to be obtained in one Summer Session must be very elementary and superficial; or, if fuller and more advanced, it must be mentally imbibed in such haste as to prevent anything like healthy digestion of the mass. Pity for the stuffed student might be out of place. My compassion is reserved for those unfortunate administrative bodies which

might, under such a system, be deluded into the belief that they were appointing thoroughly-qualified persons as officers of health; perhaps, also, for those judges, lawyer-coroners, and juries, who might fancy that they had summoned real experts to help them over some knotty points of science.

Yet I am bound to say that instruction in toxicological chemistry, physics, and physiology in its relations to "diet, development and growth, mental and moral manifestations" (given to some extent at present in most medical schools, and to be given very profitably on Dr. Parkes's plan) would make the subsequent study of Hygeiology and Medical Jurisprudence far less difficult and more profitable. Were it possible, which I doubt, to enforce such a scheme of tuition as he recommends for the first two years, this would seem to be one of the best methods of commencing medical education, without reference to the future object and destination of the student.

Zoology and Comparative Anatomy and Physiology ought, however, to form a part of the "Science" course, and to be included in the examinations held at the end of the first period of medical education, for those who intend to study for the qualification in State-Medicine.

Under existing circumstances and methods, however, every available portion of the quadrennium is actually appropriated, whether judiciously or not, by other indispensable pursuits. There is, therefore, neither in theory nor in practice, any sufficient period available for really effective work in the several departments of State Medicine.

But supposing that the Medical Council should see fit (as I believe they will ultimately) to insist upon a supplementary period, to be employed in special preparation for the duties of Public Medicine, they are by no means called on to dictate the precise method and order in which the matters, to be included in this additional qualification, shall be pursued. So far at least as concerns this higher branch

of medical education, I support fully the principle which has been laid down, very boldly of late, by another great authority. It seems to me that, provided the candidate (at the end of a period sufficient for the complete and healthy assimilation of the mental *ingesta*, and under a sufficiently-minute, prolonged, and practical examination) shews himself to be thoroughly competent to undertake *any* public or forensic duties which his country may require of him, the manner and place in which the requisite knowledge may be acquired are immaterial. He may get it at home or abroad, or partly in practice among the poor, or partly in the laboratories and museums of great medical schools and universities, or partly in scientific or topographical explorations.

The proper study of the specialities of State Medicine might, nevertheless, be promoted, with great advantage to the country, were the legislature to sanction the endowment of two or three public professorships in each metropolis. Such a measure might have the good effect of checking the tendency to multiply ill-paid lectureships at small Medical Schools, especially on subjects which can be well taught only by those who have at command ample educational resources, and can thus secure large classes. Let us hope that, in the next Parliament, no statesman would oppose such a proposition, on the ground taken by the Tory party in 1806, when the Whigs endowed the Chair of Medical Jurisprudence in the University of Edinburgh.*

What has really to be considered thoughtfully, is the nature of the Board or Boards by which this knowledge should be tested and its possession certified; and *how* competency, proficiency, and excellence are to be marked for the information of public authorities.

On this important point we are first arrested by the recent

* See "Essays on State Medicine," p. 67.

Act of the Senate of the University of Cambridge, confirming the Report of the Board of Medical Studies, and recognizing State Medicine as one of the subjects for the M.D. degree. A general principle of the utmost importance is publicly announced in that Report—a principle already practically, though I think imperfectly, at work in other universities—namely, that the higher medical degree, especially that which signifies attainments of greater importance to the public, should be obtained “by further and somewhat higher tests of qualification,” and should thus “entitle the Doctor of Medicine to be considered as holding legitimately and substantially a position in the profession superior to that of the Bachelor of Medicine.” These higher tests, at Cambridge, are now to include four topics, of which State Medicine is one. The candidate may select this subject for his thesis and his extempore essay. I infer that, if successful, he may be distinguished accordingly, and he will, in fact, be known to the world as having obtained his degree on proof of his thorough knowledge of some or all branches of this subject. All that seems to be required in order to complete this excellent measure, is the adoption of some distinct designation, or the grant of some special certificate, for the use of the legislature, the Medical Register, public administrative bodies, and courts of law.

I am happy to perceive that, at Oxford also, this question is being, in my humble opinion, most ably and judiciously handled. Among the recommendations contained in the second Memorandum of the Medical Education Committee of Hebdomadal Council, appear the following, which I am kindly permitted to quote :

“IV.—At any time after two years from the B.M.
 “degree, he should read and publish a dissertation
 “on one or more of the following subjects,—the sub-
 “jects being selected by the candidate, and the thesis
 “and dissertation approved by the professor, viz. :

“ Practical Medicine, including Mental Pathology.

“ State Medicine.

“ Surgery.

“ V.—The dissertation having been read and published at the same time, the Bachelor in Medicine should become Doctor, in Medicine or in State Medicine, or Master in Surgery, or any combination thereof; provided always that in respect of State Medicine, such examination be passed, over and above the dissertation, as shall be approved by the Medical Council, and agreed to by the University. . .”

It is further suggested that the University “ take steps to obtain from Government the power to insert a diploma in State Medicine and in Surgery, in Schedule A of the Medical Act.”

And in the final report of this Committee, “ the establishment of a special licence in Public or State Medicine” is recommended, “ if no combined arrangement appear likely to be attained within a reasonable period.”

In the University of London, as I said on a former occasion,* “ the acquirements demanded for degrees in Science, together with a knowledge of particular subjects—including hygienic and forensic Medicine—required for degrees in Medicine, complete what may be called the state-medicine curriculum of that University.” If any particular topics or branches of State Medicine, on which the public officer ought to be informed, have hitherto been omitted in this curriculum, they can, of course, and probably will, be supplied by a Body which certainly has the honour of having taken the lead in giving distinctness and prominence to qualifications and degrees in *Science*.

But I venture to think that the main defect of the London University regulations, is that all these advanced

* “ A Proposal,” &c., 1865, pp. 5, 6.

scientific acquirements must be ready for the M.B. degree. It appears that nothing further is demanded, as regards special knowledge, for the Doctor's degree. The principle, acknowledged elsewhere, that higher and more definite qualifications are demanded for higher degrees, is, to some extent, lost sight of in these regulations. Neither does it appear that any proof or mark of special proficiency in the studies of which I am treating is conferred on the Bachelor or Doctor of Medicine.

I suggested in 1865, that "the Universities of the Kingdom might afford facilities for the cultivation of State Medicine, as a special department, in connexion with the existing Natural-Science and Medical Schools; and after the requisite examinations, confer corresponding degrees or certificates of proficiency, whereby to mark the fitness of their possessors for official employment."

But I beg to repeat my conviction that certificates of high proficiency in State Medicine should be reserved for those who attain the *highest honours in Medicine* which the University confers.

Those may surely be esteemed the most exalted attainments, the noblest talents, of the Physician, which can be the most widely employed for the benefit of society, which concern most deeply the welfare and safety of the masses of the people, and which tend directly to the physical improvement, indirectly to the greater moral excellence, of the race.

It is this kind of knowledge which deserves the highest social estimation, and which ought to lead to the most honourable positions in the State. Were a principle so truly Christian duly recognized by the nation, physical science and its beneficial application to the condition of the people, would have as influential a share in its government, and would as surely command its highest distinctions, as the successful exercise of profound knowledge of the Law now does.

The beneficial administrator of State Medicine, the preserver of a million lives, the elevator of the standard of a people's health and vigour, ought not to yield in the councils of the realm to the most distinguished practitioner of the destructive art of war.

But to return to the manner of testing or marking proficiency in subjects of State Medicine. Should this be left wholly to the Universities? The question need scarcely be asked; for if the legislature made no further provision in the matter, the other licensing bodies, in the race of competition, would almost certainly provide examinations and offer certificates, professedly of the same nature and intent, for the use of administrative bodies. Thus, Colleges of Physicians, Colleges of Surgeons, and Societies of Apothecaries, would compete or combine to supply the new article, the manufacture of which might otherwise be monopolized by the Universities!

There is one, and but one, method that I see, to prevent so absurd and objectionable an addition to the medley of existing qualifications, already fifty-two in number. That method has been suggested; namely, that Parliament should establish in London, in Edinburgh, and in Dublin, a Board of Examination for the Civil Medical Service.

I do not mean that the examinations held, and the certificates or diplomas granted by such a Board, should in any case be permitted to supersede the examinations held at the age of twenty-one, for the licence granted by any one or any combination of the licensing bodies. It is quite unnecessary, as it would be inexpedient, to complicate the state-medicine question by dragging into the discussion that of medical licences in general. The latter must be treated on its own merits; and doubtless it will some day be settled on broad and national principles. A qualification or a degree does not essentially comprehend, and it need not absolutely confer, a licence to practise. But, in the matter of State

Medicine, the certificate of the proposed Board would be supplementary to that uniform minimum qualification which now includes the licence to practise, just as the degree of Doctor of Medicine generally supplements that of Bachelor.

The foundation of scientific medicine is now acknowledged to be one and indivisible. Its breadth and depth may vary somewhat in different schools and universities, and for different classes of the profession. But it should admit of any superstructure which the advance of knowledge and the requirements of the public may reasonably call for.

The primary object, therefore, of an Examining Board for the Civil Medical Service is obvious. It would admit to examination candidates for its diploma or certificate, who, after having fulfilled their quadrennium, and passed their examination for the licence to practise, shall have devoted *two* more years to the attainment of higher and more special knowledge. The examiners would test these acquirements, and, if satisfied, would certify the competency or the proficiency of the candidate in subjects deemed essential for the efficient action of the medical officer, the sanitary superintendent, and the practitioner of medical jurisprudence. They would also grant "honours" to those who had distinguished themselves in the examination.

A secondary object of the institution of such a Board might be to test, as the Army and Navy Medical Board have so well tested, the real value of the diplomas previously conferred by the existing Licensing Bodies.

The institution of such a Board, it may be as well to repeat, need not be the means of depriving the professional Corporations of a single applicant for their diplomas; while they would thereby be advantageously relieved from duties and responsibilities, for which at least some of them were not originally intended or founded. They would thus be enabled to devote all their energies to the promotion of excellence in their respective departments of therapeutic

practice, an object which, notwithstanding theoretical objections to their constitution and privileges, they have long pursued with much success, with honour to themselves, and benefit to the public.

For what offices, or for what public employments, the Certificate of a Civil Medical Service Board should be required, is, I submit, a matter for the legislature to consider and determine, and hardly within the province of the Medical Council, unless indeed the question were remitted to them by the Government.

It is enough that those who may be consulted by the State authorities, should be prepared to shew—*how* the public might be best served, in matters of public medicine, by those persons who would be, under the regulations of the Medical Council, thoroughly and adequately prepared for such duties; *what* kind of degree or certificate should be required for medical offices under administrative bodies and in legal investigations; *what* additional period of study and observation should be required for the attainment of such qualifications; and *what* description of Examining Board ought to be constituted for the purpose of conferring the same, in defect of the possession of a corresponding University degree.

Under a perfect system of public medicine, I believe that no one ought to be appointed to the medical charge of the Poor in any district until he had attained, by a "pass" examination, the proposed qualification in State Medicine. Under the Irish Poor Law, no one can now be appointed to a Dispensary district, under the age of twenty-three. This is the age at which I propose that the state-medicine diploma might be obtained. The candidate might, during his preparation for the higher degree, be engaged in attending, as a deputy, upon the sick and hurt in a workhouse or district, if he were not engaged in clinical and practical work in some hospital or public institution.

Were the Poor-Law Medical Staff constituted of men thus fully qualified, they would justly be entitled to preference in appointments to the proposed higher sanitary and medico-legal offices. Good service and marked success in the lower office would constitute their legitimate claim to fill vacancies in the higher.

Although I have avoided, as much as possible, any suggestions concerning the administration of State Medicine, it is but right to say that nothing is further from my object than to disturb existing tenure of office, or to interfere with the personal rights and interests of those Officers of Health, Certifying Surgeons and Public Analysts, who are at present so usefully employed in the Metropolis and other parts of the Kingdom.

It only remains for me to reiterate, what has been already plainly indicated, that the possession of the degree of Doctor of State Medicine, or any similar distinction, or simply that of Doctor of Medicine—provided it were accompanied by a special certificate, attesting proficiency in State Medicine—ought to exempt the candidate for public office from the necessity for examination by the proposed Examining Board of the Civil Medical Service.



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STATE MEDICINE:

A DISCOURSE,

DELIVERED BEFORE THE UNIVERSITY OF DUBLIN,

ON SATURDAY, APRIL 6TH, 1872.

BY

WILLIAM STOKES, M.D., D.C.L., F.R.S.;

REGIUS PROFESSOR OF PHYSIC.

PRINTED BY

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STATE MEDICINE.

I PROPOSE, in this discourse, to draw the attention of my hearers to a subject which is every day growing in importance, and claiming a larger share of public attention in England, in India, and in America. It is that of *State Medicine*, which comprises Legal and Preventive Medicine, and, in fact, embraces the whole of sanitary science.

It has been proposed to consider State Medicine under the heads I have just mentioned. With the subject of legal medicine, or medical jurisprudence, I need not at present detain my hearers, but proceed to Preventive Medicine, which is mainly a growth of our own time. It may be described or defined as that body of knowledge of many kinds which deals with the causes of the physical evils of the human race, with a view to their prevention or their mitigation.

Sanitary science is related more particularly to *Preventive* as distinguished from *Curative Medicine*—the one deals with causes, the other with effects, which in their turn become causes. Now, if we compare the relative importance of these two branches of medical knowledge, a greater value must be attached to the first than to the second,

and for this reason—that the well-being of larger numbers of mankind depends immeasurably more on Preventive than on Curative Medicine.

The great end of the first is to preserve the health of the masses of mankind so as to diminish the necessity of the other. The one calls to its assistance the study of all social defects, together with that of many of the greater phenomena of nature. It is to be furthered by large and wise legislation, while the other is dependent on the slow and intermitting advance of purely medical knowledge, as well as on the individual attainments of those who are to apply it. Preventive Medicine embraces everything, as is well shown by the Regius Professor of Medicine at Oxford, which relates to the physical and moral well-being of our fellow men, so that it has to contend with all moral, social, and physical evils. Ignorance, selfishness, the grinding of the poor, the consumption of human life, like fuel, for the production of wealth, vicious indulgence, and everything that deteriorates the body, and with it the mind, come within its extended scope. Its object is the health, and therefore the happiness and prosperity of man—its instruments are science and common-sense, with rules plain and patent to all, so that it promises to be the noblest pursuit yet offered to the human intellect, and he would be a bold man who would dare to limit its results or to predicate its triumphs.

The extent and magnitude of the subjects

embraced under the head of Preventive Medicine are so great that it is difficult for the mind at once to form an adequate idea of them.

Everything that influences the physical condition of man, directly or indirectly (and this latter brings in the moral question), be it for good or for evil, is to be studied in relation to the great subject before us.

All the laws as to the action of external or of internal agents on his birth, development, health, strength, and longevity, are to be considered. The influence of age, sex, race, and hereditary transmission of disease ; of occupations, especially those that, although they are unwholesome, have become indispensable from modern requirements. The social and moral standard of populations, and their birth and death-rates at different times and in different places—in other words, their vital and sanitary statistics are required. So also the effects of personal cleanliness, and, conversely, the accumulation of filth in our dwellings, highways, and byeways, and the results of over-crowding—that fertile source of disease and demoralization.

Though the spread of epidemics cannot as yet be referred to simple meteorological considerations, every phenomenon of meteorology must be studied in relation to the health of man ; every variation of atmospheric electricity, or of terrestrial and sidereal magnetism, as indicated by Humboldt ; the pressure, temperature and hygrometric state of the atmosphere ; all require to be investigated with the

same view. So also do the laws of synthesis in organic chemistry, as in relation to the influence of the ingesta, and it may be to the origination of disease.

But there is more to be said : the laws of epidemical and of endemical disease, and the manner in which they arise, have yet to be worked out. So also the correlation and, perhaps, even the convertibility of zymotic affections. This bears on the germ theory, lately revived, but as yet not handled with the modesty of science. "Does like in disease always produce like" is a question to be asked. The whole subject of contagion, and the application of the doctrine of probabilities to its proof or disproof ; the variations in the state of receptivity of the body, and the influence of the law of periodicity on diseases, whether as regards the world-wide pestilence or the individual case, all require elucidation.

Finally, it is a question for Preventive Medicine, whether disease results from any original or natural law of our being, or is its pre-ordination by the Almighty a punishment for the neglect of his laws ? Can a true civilization, which means the employment of the results of observation, bring about or restore that state of the human constitution, that normal condition in which, under the beneficent and immutable law of periodicity, the life of man should run its appointed course, the vital chain be at once broken, and the soul forced the nearest way without suffering and without disease ?

All this to help in solving the question, how is Public Health to be best maintained, so as to escape the influences which deteriorate it, and prevent the progressive physical and moral decay, not of the individual man alone, which there is reason to fear is going on in England, but of communities of men? To ascertain, to proclaim, and, in God's own time, to clear away the lets and hindrances which everywhere prevail to the working out of the laws of the All-wise and All-powerful, for the well-being and the happiness of His creatures—laws which are every day lost sight of through that public ignorance, immorality, and selfishness, which, making all things subservient to the lust for gold, constitute the real danger to these countries.

For many years the subject of Public Health has been slowly but steadily attracting attention in England, and this, at first, was mainly owing to the enlightened labours and perseverance of one distinguished physician and philanthropist, Dr. Rumsey. There is no part of the subject which his pen has not tended to elucidate. In one of his works he gives an account of a private meeting of a small number of friends, many years since, at which it was determined that each of them should labour to bring the matter before the national mind. From that time the subject of Public Health has advanced in general estimation, and now from being but little thought of, except in the way of ridicule and as a dream of enthusiasts, it holds a large place in the minds of

the thinking men of the British Dominions, whether legislators, political economists, or men of science.

Previously to 1867, when the British Medical Association was invited by this University to hold its annual meeting within the walls of Trinity College, much had already been done in England. I have spoken of the labours of Dr. Rumsey, which so thoroughly entitle him to the national gratitude, and were then acknowledged by the University of Dublin in conferring upon him, with some other distinguished men who on that occasion visited Ireland, the degree of Doctor of Medicine, *honoris causa*. On the report of the Public Health Committee of the Association, of which he was Chairman, being brought up, at its meeting in this Hall, it was proposed by Dr. Acland that a deputation of representatives of the Association and of the Social Science Congress should urge upon the Government the propriety of taking the matter in hand, with a view to legislation.

The Public Health Act was passed in 1858, when the powers of the Privy Council were enlarged so as to deal with a variety of sanitary questions, and the reports of its distinguished medical officer, which embrace almost every topic of Preventive Medicine, form by themselves a work of reference upon the subject. The British Medical Association and the Social Science Congress worked together for the same purpose, while many of the towns and villages of England and Scotland obtained the benefit of sanitary reform in various degrees.

In 1868 the General Medical Council appointed a committee to inquire into, and to report on, the steps proper to be taken (if any) for granting diplomas or certificates in State Medicine, and for recording the same in the *Medical Register*, due regard being had to the interests of existing health officers in the several parts of the kingdom. The resolution was forwarded to a number of eminent authorities, at home and abroad, inviting them to favour the Council with their views on the subject. Their answers are published in the second Report of 1869. Among the correspondents in Great Britain and Ireland, were the Lord Chancellor and the Lord Chief Justice of England; Sir William Jenner, Dr. Farre, Dr. Symonds, Mr. Simon, Professor Haughton, Mr. Hewlett, the energetic Health Officer of Bombay; Dr. Alfred Taylor, and Professor Travers; while among the foreign correspondents there were Rokitsky, Pettenkofer, Pappenheim, and Varrentrap.

With reference to the qualification in State Medicine, the Council had before it the question, suggested by Mr. Simon, and adopted by Dr. Rumsey, as to whether, in cases where a University degree was unattainable, a qualification should not emanate from the Council itself. The Committee agreed that the thorough discussion of the question of appointments and duties in the Public Medical Civil Service had become essential for the progress of social administration and organization, so that students or practitioners, however few they might

be, should be able to obtain a diploma certifying the possession of knowledge adequate to the end in view. They were unanimously of opinion that the Council should insert the requisite clauses for providing a qualification in State Medicine in any amended bill which might hereafter be prepared for Parliament. In accordance with the course urged upon the Government by the deputation from the societies I have mentioned, a Royal Commission was, in the first instance, named, after some delay, to inquire into the sanitary state of these countries. Then came a change of Ministry, but a Commission was finally appointed under the Chairmanship of Sir Charles Adderley, and it was determined—I think wisely—to limit the inquiry in the first instance to England. The Report of this Commission was presented to the Houses of Parliament last year.

Two Local Government Acts, necessarily the precursors of the Sanitary Act, have been introduced, and we may now look for a comprehensive Statute in which the confused mass of the sanitary laws of these countries will be arranged and codified. Let me specify some of the leading recommendations of the Commission.

It is proposed that the country should be divided into areas or districts, each with its local authority for preserving the public health.

That for all public health purposes no area should be without an authority of this kind, or have more than one such.

That, instead of the present *permissive* system, under which it rests to a great extent with the local authorities to adopt or neglect the provisions of the existing law, those of the new statute should be—with certain exceptions—obligatory.

That in each district the local administration for public health and for poor law relief should be in the hands of the same authority.

That the *central* authority for the administration of the laws concerning the public health and also poor law relief should be vested in one Minister of the Crown, whose title should signify that he has charge of both departments. He should have full powers of supervision and inspection, of control and direction, over all local authorities. His charge should be of two distinct though correlative departments.

That every local health authority should have at least one officer of health, and that in the rural districts the poor law medical officers should be the officers of health within their respective districts. That their election should be subject to the veto of the Minister, and their removal impossible without his sanction.

That special inspectors and referees with engineering, medical, chemical, and legal knowledge, would be required by the central authority.

That inducements should be provided for the study of State Medicine.

The importance of such an enactment, the leading

features of which I have given you in outline, must be obvious to all. It will place the preservation of the public health on a sure foundation by bringing the local authorities under a central head, and thereby preventing the evils which flow from the ignorance, indifference, caprice, and the undefined constitution of the local authorities. It will place the question of public health on the basis of accumulative scientific observation; and last, though hardly least, it will act in elevating the status of that noble and devoted band of men who do Christ's work of healing among the poor.

In a memorandum drawn up by some members of the Commission, and printed in the first Report, the following observations occur:—

“The advantages are many. Not only will the plan be efficient and complete, but it will be economical. The work of the Local Government, Law and Engineering Departments, of the Registrar-General, of the Poor Law Board, and of the Privy Council will be harmonized, and will never be chargeable with repetitions and omissions as at present, while neither money nor skill will be wasted.

“All reports bearing on public health will be connected one with the other, mutually illustrating each other. They will cover the whole ground of the science of prevention of disease, which has become both so important and so serious for the well-being of old and densely-peopled countries. The connexion of the office of Minister of Health with the medical profession, four thousand members of which will be in direct relation to him, would in itself be beneficial to the whole country. It would disseminate combined scientific knowledge

uniformly through the rural districts, affecting not the medical men only, but the clergy and the schools, doing in that way alone as much at least as direct legislation for the same purpose could do. It would bring to light in every corner all that could be advanced as bearing on the physical condition of masses of the people, while all crude theories and impracticable plans would instantly fade before the experience of the Central Office."

The proposal to employ the poor law medical officers as officers of health has been objected to by some able writers on two grounds principally: one, that the education of these gentlemen has not been sufficient to enable them to deal with questions of State Medicine, and the other, that from their too often dependent position in relation to members of local boards, they will be crippled as to their action for the public good. This last objection would, I believe, apply far less to Ireland than to England.

But granting that they have some foundation, what is the proper way of meeting them?

It may be admitted that in many rural districts the education of the dispensary medical officer, sufficient to qualify him for being placed on the register, is often so completely technical that he cannot do more than deal with curative medicine as he best may. Should such a man be called to report on questions of State Medicine, he will probably be found, at first at least, defective. But necessity is a great instructor, and it is in the nature of things that he will every year improve. Self-education

can do wonders. He will be assisted by skilled inspectors, and his good sense, probity, and honourable ambition will do the rest.

There will be a difficulty where the poor law medical officer is in a dependent position. But this is one of those difficulties which must gradually disappear with the advance, on the one hand, of public education in social and sanitary science, and, on the other, in the training of the future practitioner in that extra professional knowledge which will raise his social position, and be sought for otherwise than by a technical education.

It was the opinion of the late Mr. Cusack that the principle of selection by competitive examination should be applied to poor law medical appointments. I do not believe in the influence of examination—as it too often is conducted—to determine the best man in every case. Examiners commonly seek for what a man does not know, rather than for the information he possesses. The question, however, has a different aspect in this country than in England, for here sectarian and political strife have their influence even in the election of a dispensary medical officer. In the memorandum already alluded to, the following passage, in reference to poor law medical officers, occurs :—

“There is no large class of men more certain to keep up to the level of established and tested scientific knowledge, none less likely to give way hurriedly to fantastic systems of organization, or to

theoretical views of the perfectibility of the lower orders. They have had a scientific education, and are essentially benevolent and practically humane. Their life is spent in striving to alleviate the greatest calamities of the most suffering, that is, of those who being willing to work are disabled by enfeebled health, or actual disease."

"Penetrating every corner of the filthiest districts at the ghastliest moments, succouring the vicious when they are disposed (if ever) to repent, and tending the innocent who are ruined in body by the sins of those who begat them; hundreds of these men do their duty, their hearts beating with sympathy, sighing for power to remove causes the effects of which they are incompetent to check. And lastly, being themselves far from rich, they are thrifty, and as little disposed to increase unnecessary taxation as the most indifferent or most incredulous opponent of 'sanitary reform.'"

"Of these men there are in England about 4,000. It is true they were organized for the purpose of cure, because till a recent period cure was popularly held to be the sole attribute of medicine; but they would gladly employ prevention, had they the power. The central authority has only to assign to them the duty."

With respect to the second objection, if it be true so much the worse for all parties. But there are better times coming. The dispensary surgeon will be placed in a higher and more secure position, from

having to perform duties which are related, not to his district solely, but to the public weal. He will be in communication with the Minister, as it were, *inter instrumenta regni*, not as in the case of the Roman poisoner of old, for purposes of evil, but for those of good, and cannot be displaced without his sanction. Therefore he will in time be treated with greater consideration, and the country will come to perceive that professional honour implies public safety.

It is clear that similar Commissions with a view to sanitary legislation should be issued for Ireland and Scotland ; for if ever there was a case demanding similar legislation for the three countries it is that of public health. The machinery of the law may require to be varied in the three kingdoms as regards local authorities and areas of taxation, but sanitary science is the same for all men. In this respect England is far in advance of us as to both the knowledge and the practical application of the laws of public health. In Ireland the habits of the poor as to uncleanness and overcrowding call for great reform, especially in our towns, where poverty, neglect, and overcrowding so often make them foci of endemical disease. The condition of our country towns and villages is simply deplorable, disgraceful to the local authorities, and in too many instances to the proprietary, too frequently heedless as to the social and physical condition of those who live under them. Even the state of the metropolis,

possessing a Public Health Committee, is shocking, as has been ably shown by Dr. Grimshaw in a recent communication to the Medical Society of the College of Physicians in Ireland. Let me read some extracts of a letter from a gentleman of great ability and truthfulness, who holds an important public appointment in the South of Ireland. He had been requested by the Commissioners of a town in that part of the country to inspect the state of the town and report on the works necessary for sewage improvement.

It was about the year 1865, when there was some apprehension of an epidemic of cholera :—

“ I went,” says this gentleman, “ through every lane and street, and examined all the tenements of every class in the latter end of January or beginning of February. There were no main sewers in any but the principal streets, and none of these had them for their whole length. The lanes and alleys leading off from these streets were mostly very narrow, and had no outfalls for sewerage discharge except surface channels, and very few of the houses had any back entrance; a good many had neither yards nor back entrances. But all had dung-pits. If not behind, they were contrived in the widest parts of the lanes by being sunk and enclosed with walls, so as to hold from 8 to 12 cubic yards of manure each. Where the tenement had not the ‘ easement ’ of a dung-pit or yard, or right to part of the common way, the manure was stored *in* the dwelling-house. Most of the houses were thatched cabins, but several rows of two-storied houses were built, and a good many one-storied slated houses of small size were to be found containing four apartments. I discovered in one of these rows, which had

very small back yards (not half the size of the house in any case), that the whole of the ground-floor and part of the house, except the staircase and passage leading to it, were filled with manure (the scrapings of the roads and streets) tightly packed to the height of eight feet; and in the rooms above there were two families living—one in each room. The manure had of course heated, and was steaming up through the chinks of a badly-laid floor, the under side of which was dripping wet from the fermentation below.

“In several of the rows having back-yards the surface water was allowed to run through the whole length of the lane from yard to yard, and the occupier of the lowest tenement was looked upon as having the most valuable holding of the whole lot, and something like the Chinese care of liquid manure was shown by extra mould or refuse being provided to absorb or soak it up. The parts of the town to which this description may apply covered about 25 acres, and almost every part of that surface was teeming with effluvia from such decayed substances of every sort as are admitted to be of the most noxious kind, without any provision whatever for carrying off the putrid water which is always to be seen in so wet a climate as this.

“The population is about 6,000, of which two-thirds live in cabins furnished with the inevitable dung-pit. These cabins contain 700 families at the least. The dung-pit averages 10 cubic yards in content, so that on 25 acres we have at least 7,000 cubic yards of fœtid matter, with 4,000 people breathing the exhalation of such an accumulation as could not, I think, be found elsewhere even in Ireland.

“But nevertheless this town has always been *a remarkably healthy place*. There is a fever hospital which has not been full since the famine dysentery in 1847–48, and which is very frequently empty. There is no dislike on the part of the poor to go into this hospital, because it is not the workhouse,

so that the few fever cases that do occur are quickly removed out of the crowded houses.

“ It was asked—‘ How can such a state of things be? or how can it be accounted for that such good public health can exist amidst all this rottenness giving rise to the miasmata so well known as certain producers of fever and cholera?’ I suggested that there were two great advantages in favour of health, namely:—an ample supply of the very best water, and *smoky houses*. The subsoil of the town is gravel and sand to a great depth, and in this there are many strong springs, the purest water being met with at 6 or 8 feet under the surface. The fuel used is all turf, and the blackened walls of the inside of the houses showed that the inhabitants lived in an atmosphere of peat smoke. I cannot help thinking that such smoke, possessing as we know preserving or antiseptic properties, must act as a deodorizer and preventive against infection or malaria.

“ I asked one of the occupiers who lived over his dung-heap in an upper floor how he could expect to escape death by fever or cholera to himself or some of his family (a wife and five children), and his reply was, ‘ Sure we might as well be dead as never to have a bit of dung for the garden.’

“ Some legislator has said that ‘ Ireland is an anomaly’—maybe the sanitary statistics of this town are another proof of this.”

The inhabitants of this town escaped the endemical disease so common in other towns of the south of Ireland, perhaps, because, in addition to the pure water and turf smoke, an intimacy with malaria for many generations had at last made them insusceptible to it.

Dr. Pratt, in a paper read before the Surgical

Society of Ireland, recently touched upon this same question. After alluding to the widely accepted theory of the actual origin of fever, as proceeding from the decomposition of animal and vegetable matter, he observes that "after an experience of
 " nearly a quarter of a century as an Irish dispen-
 " sary medical officer, it is his firm conviction that
 " these agencies alone considered cannot be pro-
 " ductive of fever of any type. Were it otherwise,
 " Ireland would before this have been depopulated
 " from sea to sea."

" Among the Irish agricultural classes," he adds,
 " the farm-yards are simply the open spaces either
 " in the front of their dwellings or close behind, the
 " offices, cow-houses, stables, &c., forming a com-
 " ponent part of them. The farm-yard manure care-
 " lessly heaped, in many instances, up to the very
 " door, and in such a way that it often becomes a
 " problem to the perplexed doctor, whose aid is
 " desired within, how to effect an approach (especially
 " when called on in the dead of night) without stick-
 " ing ankle-deep in mire and filth, or, perhaps,
 " coming to a worse grief in the shape of a souse in
 " a slough of despond."

" Such is the state of affairs during the winter
 " months. In the hot weather of summer the pits
 " from which the accumulated manure has been
 " removed to the farm, serve as receptacles for slops
 " and refuse of all sorts thrown from the houses.
 " These slops, fermenting in warm weather, produce

“ a green stagnant pool. The gases generated show
 “ themselves as bubbles on the surface, which in
 “ due time burst, and, of course, discharge their
 “ *supposed* noxious contents in the immediate vicinity
 “ of the dwelling with all its inmates, old and
 “ young.”

Dr. Pratt observes that, in such places, a case of fever, of any type, rarely occurs, the average length of life is high, and illness, except common colds and infantile diseases, is almost unknown.

Even in instances where the peasantry live in a worse condition, the cattle, pigs, and poultry occupying the same room, and the refuse being swept into a pit close by the fireside, he has found the families hale and sound, and strangers to fever.

The influences of impure air and water, imperfect drainage, and overcrowding, have been held by sanitarians to account for the origination of epidemical or endemical disease. The subsidence of any such disease after the adoption of sanitary reform, is appealed to in evidence that it sprung from preventable causes. But the argument is defective. It is like that of the therapist as regards essential diseases, which run their appointed course, and then subside independently of any specific treatment. Like isolated cases of fever epidemics have their period of invasion, maturity and spontaneous decadence, and the conclusion is obvious: how many great epidemics over the world have died out before sanitary reform was ever thought of?

There is in some minds the tendency to attribute great phenomena to too limited a source.

“The supposition of a single cause,” says a learned writer, “is quite unsupported by nature. Every animal, every plant, every rock requires for its production the co-operation of many causes, and probably of many that we have not yet discovered. All nature depends ultimately on a single cause, but it has pleased that Almighty Cause that the effects which concern us immediately should arise from the co-operation of several of His creatures.”

But the question before us is—are such influences as I have mentioned the sole or the chief causes of fever in this country. It is difficult to believe that they are, because in Ireland, not only in the isolated dwellings of the poor, which are scattered over the face of the country, but in the towns also, all those causes which result from the imperfect drainage of dwellings, from the accumulation of decomposing organic matters in their vicinity, and from imperfect ventilation, are, I regret to say, but too constant and too general; and yet the production of fever, whether sporadically or epidemically, is inconstant and irregular in the highest degree. Why should these causes produce fever at one time and not at another? Why should districts remain for years free, or comparatively free from fever, while the supposed exciting causes continue in full force? Or, again, why, if the cause be constant, should the epidemic character of the fever vary? We may

say, excluding the consideration of isolated cases, that each epidemic has a special or predominant character.

In the present state of our knowledge, are we to hold that preventable influences are the originators of disease? No doubt, civilization demands that all things injurious to health, or noxious to the senses, should not be permitted to exist. But the question remains whether, leaving the origin of disease undetermined, sanitary reform does not act as much by the improvement of the health of the population, as by the lessening or actual extinction of the exciting causes of zymotic affections. The community being better prepared to resist the advent of disease, its spreading will be influenced and its severity lessened when it does come.

This, I apprehend, is the safe and practical way of looking at sanitary reform. It is fortunate that theoretical questions in no way touch the working out of such reform. Questions as to whether the spread of cholera is influenced by the dryness or the moisture of the air ; as to the spontaneous generation of germs ; or as to whether, when the sewerage of a town is spread out upon the fields, there may be a struggle for existence among various organisms, so that the cholera molecules die out. Such questions only divert the attention from more important matters. The sanitary reformer is not to wait for the advent of epidemical disease. It is rather when a country is free from such that he can best work in

removing or mitigating all those causes which experience shows to act against the health of man.

No one, who has not had a life-long experience of epidemics, can estimate the difficulties which exist as to their origin, or as to the absence of essential fever in places where, theoretically, it ought to prevail. The appearance of epidemics at irregular periods, while their supposed exciting causes remain constant. Their disappearance, though the causes continue in full operation. Their outbreaks in all latitudes, climates, and seasons. Their modes of spreading. The want of constancy in their symptoms and history, for every great epidemic has its own character. Their varieties as to the extent, nature, and effect of the secondary affections which arise in their course. The varieties in their mode of subsidence and behaviour under treatment. Their degree of mortality and contagiousness. All these things constitute the difficulties which surround us in our investigations as to zymotic disease. They bear on the supposed specific or constant origin of disease, on the error of drawing hard and fast lines between essential affections ; and are with difficulty reconcilable with the germ theory.

But still, though differing in history, symptoms, nature, and mortality, these essential affections have their resemblances. They are all under the influence of the law of periodicity. We do not know of any treatment by which they can be cured. No man ever *cured* a fever, be it the yellow fever, plague, cholera,

small-pox, or scarlatina. In these diseases it is simply a question of time, and if life can be prolonged by proper support, and by meeting the secondary accidents of the disease, the patient will recover spontaneously, as it were, on the striking of the clock.

Again, these diseases are all, to a greater or less extent, contagious, a characteristic of which the best evidence is found by the application of the *doctrine of chances*. In the progress of an epidemic in Ireland (and doubtless, also, in other countries), in a family of twelve persons, the disease has been known to attack eleven out of the twelve. In some cases, the passing of the fever through so large a proportion as eleven individuals out of twelve, has taken a very considerable period of time, as you may readily understand. It has taken about three months to go through them all. Now, my father proposed these two problems to the then Bishop of Cloyne (Dr. Brinkley), for solution :—

1st. “ An epidemic prevails so severely, that one person out of seven sickens. A family of twelve is selected in a particular district, before the epidemic has visited it. What is the chance that eleven out of that family shall take the disease, supposing the sickness of one of the family does not promote the sickening of another—that is, supposing the disease not to be contagious, and supposing the family to be not unusually liable to the disease?”

The answer furnished by Dr. Brinkley is, that the probability against such an event is 189,600,000

to 1. That is a very singular and extraordinary result.

2nd. "The same general conditions being assumed, and also that the number of inhabitants of a district is 7,000, what is the chance that, in a family of twelve within the district, eleven will sicken?"

"Answer: The chance then is 300,000 to 1 that no family of twelve persons, in a population of 7,000, will have eleven persons sick."

These numbers furnish proofs so convincing of the truth of the doctrine of contagion, though by no means in an exclusive sense, that it is hardly necessary to go further. The facts on which they were based are ascertained facts; they have been common facts in epidemic fever; but, recollecting that they were common facts, the chances against their happening, if the disease were not contagious, would be 189,600,000 to 1 in the one case, and 300,000 to 1 in the other.

But we know also that any depraved state of the public health in a community, if not itself a generator, renders it more liable to outbreaks of some of these forms of disease, and destroys the power of resistance possessed by the human body, which in the depressed state induced through preventable causes falls a ready prey to the pestilence.

This was well seen in the famine fever in Ireland in 1847 and 1848. Many of the sufferers, from want of food, were admitted into our wards in the

Meath Hospital, having struggled up to the city, and fallen down in the streets from exhaustion, so that they had to be conveyed to hospital by the police. They all had a strange similarity in appearance. The face was collapsed, the eye sunken, and the feet were often œdematous. Yet they could not be said to be in fever, for the skin was cool, though dry and shrivelled. They all exhaled a heavy and sickening smell. On being placed in bed they remained in a passive uncomplaining state. Rest was what they most desired, for food and drink seemed indifferent to them. The feeling of humanity naturally prompted the liberal administration of food and wine; but it was soon found that to adopt such a course was dangerous, for symptoms, rapidly proving fatal, quickly followed. Even when these unhappy creatures, by the most carefully graduated use of the mildest aliment, had at last got out of the collapsed state, they would suddenly, as it were, burst into the worst form of typhus ever witnessed in the hospital, the petechial spots appearing on the first or second day, while the disease, in many cases, ran its fatal course in four or five days.

And the malignant character of the disease thus induced, when transmitted to others who had not gone through the previous process of starvation, was well shown by the terrible mortality of the dispensary medical officers throughout the country during the wide-spread epidemic of fever which followed.

The great end of sanitary science is to preserve

intact the health of the body. In dealing with large masses of men, most of them ignorant, many of them powerless, it will not be sufficient, as Miss Nightingale well insists on, to trust to legislative enactments to do the whole work. Education must lend its aid, and until this has acted not only on the ignorant masses of men in this country, but on the millions of India, the work of sanitary reform will be imperfectly done though enforced by an enlightened despotism. Her remarks were made as regards India. But education is required at home, not only among the artisan and peasant class, but in those who constitute Board of Guardians and other local authorities, to say nothing of the landed proprietors themselves.

It has redounded much to the credit of this University, so long remarkable for its faculty of reading the signs of the times, and so forward in all measures of educational improvement, that a Qualification in State Medicine in connexion with Trinity College has been instituted. To obtain this the candidate must be a Doctor in medicine and pass a comprehensive examination. Though possessing a great medical school, Trinity College has recognized the distinction between Preventive and Curative Medicine. Upon the Court of Examiners for the qualification in State Medicine are the Professors of Law, Chemistry, Engineering, Meteorology, Hygiene, Pathology, and Medical Jurisprudence, and the "Testamur" has been already obtained by four gentlemen, whose University career has shown

that those most distinguished in Medicine have been also eminent in their course of Arts. Oxford in the person of its Regius Professor of Medicine is identified with the cause of State Medicine, and the Medical Syndicate of Cambridge have already agreed upon the subject.

It is plain that the old teaching Universities are in the best position for instruction in State Medicine, and in this place the existence of a School of Engineering, many of the pupils of which now occupy important positions in various parts of the world, gives it a peculiar advantage.

It may be asked what is meant by "Sanitary Engineering?" Dr. Rumsey, in a letter with which he has favoured me, observes that the real effects of structural works on health have not yet been fairly ascertained. "Civil Engineers," he remarks, "have only lately begun to study the relations of the various matters of their profession to human life. The influence of different modes of construction of dwellings, roofs, drains; the size of rooms and public buildings; the effect of local drainage; the study of river and air currents, and their effect on the health of the people are not mere problems of statics and dynamics—nor are they simply questions of elegance of design, convenience of use, or durability of structure."

Let me illustrate the matter by examples. The sanitary engineer will not sink a well in places where the water may be polluted, or so construct it that it

may be fouled by surface water, or by decomposition of matters thrown into it. In the year 1868 the drownings in the Bombay Presidency numbered 1,608. Of these, whether from accident or from suicide, 1,101 were in wells. He will have to deal with water supply as to its source, constancy, purity, fall, and the nature of the soil through which it runs. The whole subject of drainage and of sewerage must be familiar to him. The disposal of sewage, and its application towards fertilizing the soil, to say nothing as to the proper construction, with reference to ventilation and warmth, of hospitals, jails, barracks, passenger ships, and schools.

India is the country throughout whose length and breadth for many years there has existed one vast hot-bed of disease, from which epidemics have spread over Europe destroying immense numbers of victims in their course. Under the British rule sanitary reform has been attempted, though as yet it is but partially carried out; and the Health Reports of India, drawn up by the military medical staff, form in themselves a most valuable contribution to sanitary science. Miss Nightingale says, in a letter to the *Bengal Social Science Association* :—

“ There is so constant a relation between the health of a people and their social civilization that, alas ! one of the best, if not the best, indications of the social state of populations is afforded by the numbers who die year by year.

“ Nor this only, for the Almighty has so linked together the happiness and misery of all his creatures, that we in

Europe can almost anticipate whether Indian cholera is to devastate the nations of the West by the number of people who are dying of it in Lower Bengal."

In the report by Dr. Townsend on the central provinces, we learn that in 1868 four thousand villages and towns with a population of nearly *eight millions* were attacked by cholera; and in a population of more than two millions nearly fifty thousand died.

The following striking picture of the condition of Central India is given in the Report of the Army Sanitary Commission for 1870.

After stating that the causes connected with locality exist in most intensity in the river deltas, the report goes on to speak of the people :—

"Their houses are little better than hovels, often greatly overcrowded. . . . The water supply, whether obtained from house-wells or from tanks, appears to be very foul, and quite unfit for domestic consumption. There appear to be few or no arrangements for domestic cleanliness. Filth and refuse matters are retained in the houses or thrown out into the road. The people themselves are poor, apathetic, underfed, sickly, indisposed for much exertion, filthy in their clothing and habits; their clothing scarcely sufficient to guard against alternations in temperature. The landed proprietors appear to take little interest in their health. The people are decimated year after year by epidemics, or rather by endemics, of fever, cholera, and other diseases of miasmatic origin; or their usefulness to the State is diminished or destroyed by the permanent consequences of these diseases. Their only resource under these afflictions appears to be temporarily

running away from the villages, and when matters become too bad for endurance, they leave the village altogether, and build another on new ground with immediate benefit to health. It is a striking proof of the influence of careless occupation of a locality in deteriorating its sanitary condition, *even in districts eminently unhealthy*, that the population decreases in old, and increases in new, villages. After a time in new villages the old course is resumed, disease and mortality increase, other changes of habitation are sought, and this appears to have been going on from generation to generation."

Now since the introduction of sanitary measures, the death-rates of the three great capitals and of the jails over the continent of India are stated to have greatly lessened. Calcutta shows better than Liverpool or Manchester, and the death-rate of Bombay is less than that of London. Yet Bombay is peculiarly exposed to the importation of disease from the annual influx of multitudes of pilgrims from all parts of Asia on their way to the tomb of the Prophet at Mecca, and on their return. It is stated by Mr. Hewlett that Bombay could be kept free or almost free from zymotic diseases, but for their importation by the crowds of pilgrims. To those who have not had a long personal experience of India, it is not easy to estimate the difficulties which that country presents as to almost every matter relating to State Medicine. Take the subject of sanitary or even vital statistics. Competent authorities hold that the published death-rates are but

partially reliable, not from any mala fides on the part of the reporters, but from this, that notwithstanding the weight of English authority it has not overcome the determined hostility of the natives of both the prevalent religions to the registration of births and deaths. The family of a Hindoo or Moslem is a sanctum which no English official must penetrate or examine too minutely. Deaths of children or women in the central provinces of India are not admitted by the natives to be concerns of the governing power—and the lower castes skilfully evade too minute inquiries—so that it seems probable that the published death-rates cannot be trusted within 4 or 5 per 1,000. In a minute of the Army Sanitary Commission, we find it mentioned that with the exception of the three capitals, there is no indication of the presence of the sanitary engineer in any village, town, or city throughout India, and that the Commission is sorry to say there are examples in the Report of so-called sanitary works, which had better never been executed. In illustration of this I have been informed that the vast sewers lately made in Calcutta are laid in ground of alluvial deposits—most of it soft and yielding like quicksand—and therefore not likely to maintain their proper levels and falls, or to preserve their structural integrity. They will, accordingly, become in time nothing but elongated cesspools, with an uncertain and ever-changing outlet at the one end, and at the other opening into thousands of houses.

Looking at these facts and at the social degradation of the village communities of India, what a fertile field does India present for engineering talent, were it only applied for the purposes of public health? What an opportunity for putting in force all the appliances for preventive medicine and its consequent social improvement? There are the hundreds of millions of subjects to the British Crown, whose domestic habits seem little better than those of the lowest animals—one living widespread mass of wretchedness, the examples of moral and physical degradation and decay, the recurring sources of destruction to the far-removed and nobler inhabitants of the earth.

It will not be amiss to reflect on the altered state of things which may result from the larger application of the principles of State and Preventive Medicine in a more advanced condition of society. I shall not seek to draw any picture of a moral or a medical Utopia, but surely we may hope that some measure of good will follow the search for truth, when the inquirers look for it earnestly—that is, when they seek for it with all the aids that science affords. Every immediate and remote cause of moral and physical evil must be investigated and if possible removed. National health will be found to be connected with national morality and prosperity. We in our time cannot expect to solve all the problems which will be presented to us, but if a few are successfully handled, we shall be thankful for

the instalment. Every man in his own person may assist in removing those evils which afflict society, and even his very diseases may be made to fructify for the common good. The great instruments of Preventive Medicine will be science, legislative wisdom, and charity—that blessed and fragrant flower of the following of Christ. War, that assimilates man to the brutes, will become more odious as its collateral effects will be better understood. In the war of liberation of Spain, we have the authority of Sir Gilbert Blane in stating that more of our soldiers died of fever than of all other causes, including the sword.

An important result of the application of preventive medicine will obviously be, that on the advent of any contagious disease, countries or communities will not, as it were, be taken by surprise. Arrangements for the care of the sick, whether in hospital, or in their dwellings, and during their convalescence, will have been made beforehand, so that the mischief will be met at once, and all the difficulties, errors, and delays, which, under the circumstances so commonly occur, will be avoided. All this is well illustrated by the history of the present epidemic of small-pox in Dublin.

A time may come when the conqueror of disease will be more honoured than the victor in a hundred fights. The time may come when no man for his own ends or for his profit will be permitted to damage the health or the well-being of his neighbour

or of his servant, nor the prisoner have to suffer through the ignorance or the indifference of his jailer, while the emigrant with his loved ones will be protected from disease as he expatriates himself from the land of his birth.

The gifts to man from Heaven—pure air, pure water, bright light, and wholesome food, will be more freely shared in, and the moral and physical evils of over-crowding, and the consequent guilt, the shame, the pestilence, will disappear. The artisan will be taught the dangers of his particular calling, and so far as law and public opinion go, be protected from them, whether he labours in a hot room, amid the roar of machinery, or deep in the earth where he has to work in passages carved by himself of little more than two feet in height, inhaling the smoke of gunpowder and particles of silex till his working life comes to an untimely and miserable end.

That false morality which would ignore the existence of, and therefore would neglect, that unhappy class of the victims of society, will be denounced and exposed. Infant life, concerning the preservation of which civilized England may well take her lesson from Russia, will be protected by the State.

The power of science will be brought home to all men, as to everything that can influence health, food, drink, labour, residence, occupation; and, as it touches each of these considerations, will lead mankind to higher thoughts and purer lives.

The principles of the science of public health

will be taught in our Universities, and from them downwards in our elementary schools; and the influence and the light of science be brought to bear upon all men.

Think of the millions of our fellow-men—brethren, subjects of the same crown, at home or on the burning plains of India, contending miserably with, or yielding to, the multiplied evils of degradation and consequently untimely death, from whom the ignorance of their rulers as well as of themselves keeps the light of knowledge; and you will admit that it is a noble object for those who dwell in, and who govern, the homes of science—our ancient teaching Universities of these countries, to prepare and to send out over the world their disciplined and devoted soldiers of science and of ethics with the highest academical and therefore social rank, to contend with and abate those moral and physical evils, the growth of ages, the offspring of ignorance, which so long have afflicted and retarded mankind.

APPENDIX.

With respect to the question of the actual origin of epidemical disease from preventable causes, the following extracts from Dr. Graves' work, *Studies in Physiology and Medicine*, will be useful.

In writing on the *Progress and Contagion of Asiatic Cholera*, the learned author observes :—*

“I cannot give my assent to the benefits that are supposed to accrue from opening the sewers and white-washing the houses in the poorer parts of cities. It is true that obstructed sewers give rise to disgusting nuisances, and soiled exteriors are offensive to the eye. But the causes of epidemic disease escape the scrutiny of both nostrils and vision, as is proved by the fact that the worst parts of most capitals of Europe, however abounding in all sorts of abominations, do not give rise to either typhus fever, plague, or cholera. Filth is the outward and visible sign of poverty, and, like poverty, is itself an evil; it oftener accompanies than causes disease; otherwise, as I have said, every capital in Europe would contain within its precincts many self-supporting manufactories of pestilence. I have always been of opinion that poverty is more injurious to health than dirt; that its prevalence entails disease—sporadic disease—from many obvious causes, and increases the spread of contagious maladies on account of the *entassement* or crowded state in which the poor necessarily live. If humanity strives, therefore, in its visits to the haunts of misery to prevent the spread of

* *Loc. Cit.*, p. 376.

contagion, it must pluck the inmates from within those bounds, disseminate them over a large space, where the same number that now inhabit rooms may occupy large houses, and may have the use of nutritious food. But, alas! this, the only true method of relief, will require something more expensive than the broom and the brush; and those who are so loud in recommending open sewers and white-washing as sovereign prophylactics, will, perhaps, shrink from contributing their share of that poor-rate, or money for relief, which alone can snatch the pauper population from the hands of the destroyer."

Further on he remarks:—

"One great discovery has been made by the Board of Health in London, and which is announced in the following words:—‘The places in which the pestilence is now numbering its first victims are the very spots which are known to be the filthiest in their respective districts, and to be the constant seats of typhus fever and other epidemic diseases. In tracing the individual cases reported to the Board of Health, the medical inquirers who, under the direction of the Board, have made a special investigation into the circumstances connected with the earlier attacks of the disease during its present visitation, have been led not only to the streets, courts, and alleys, but sometimes even to the very houses, *that are notorious as fever nests.*’ So then it appears that the *fever nests* have mysteriously and unaccountably become *cholera nests*, that the same raw materials have been used for the production of a totally new manufacture, and that a new effect has been created by an old cause. But were not the localities indicated by the Commissioners nests not merely of fever, but of all diseases? Had not, during all seasons and in every year, scarlatina, measles, hooping-cough,

and small-pox been hatched in such places? Are not these localities filled with the victims of indigestion, marasmus, scrofula, and itch? Are all these evils produced by the incubation of the same ova? If so, then Pandora's box has re-appeared in a new and more frightful form, even *Hope* is scared from its bottom, and all the evils to which flesh is heir may be caused by a superabundance of moisture in the atmosphere."

To quote a third passage from the same author:—

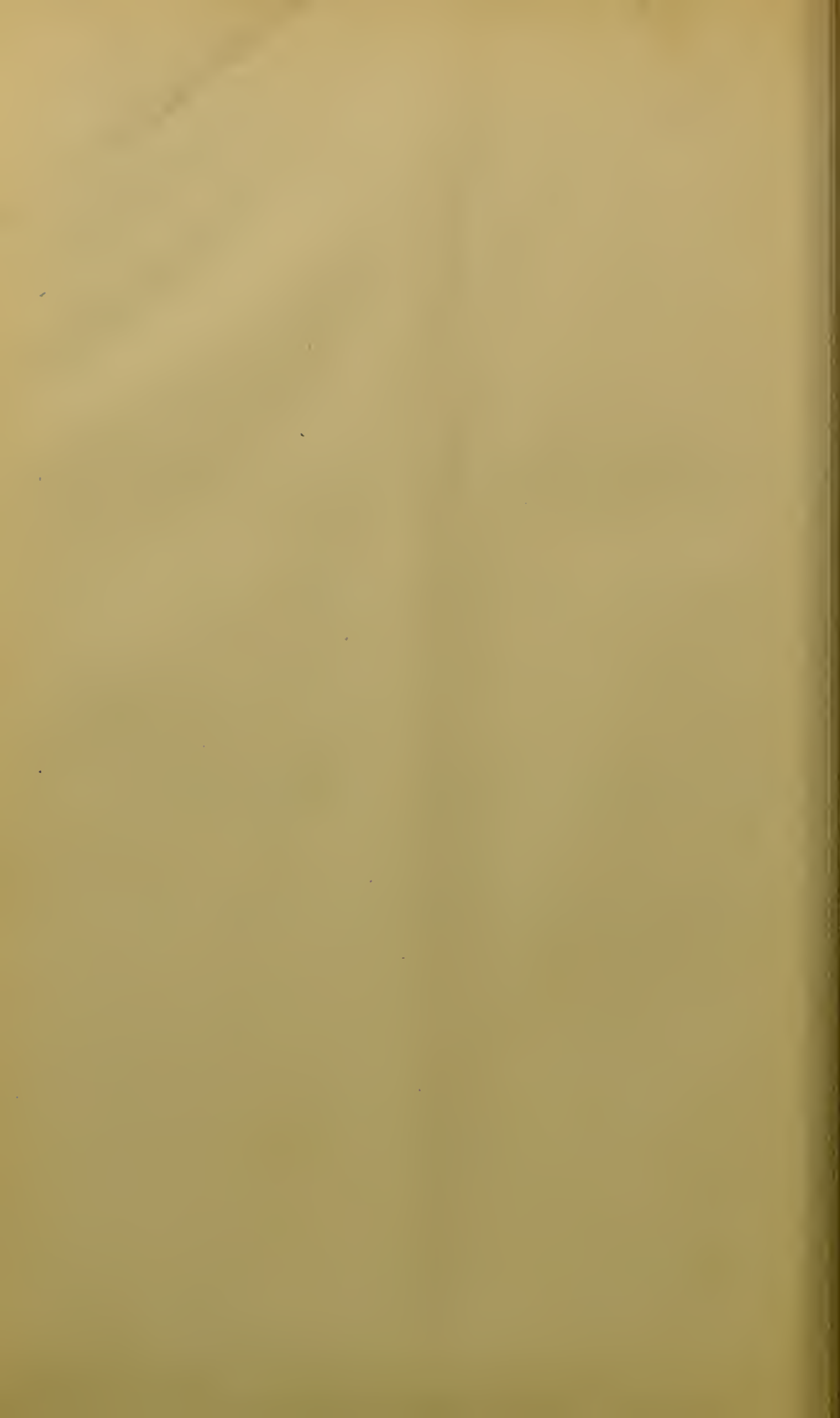
"A very striking example of the escape of certain localities from the infection of cholera is mentioned by the intelligent Roman correspondent of the *Daily News* of the 16th of November, 1848, viz., that during the last epidemic of cholera at Rome, the 'Ghetto,' a part of Rome inhabited by the Jews alone, altogether escaped. Now it is perfectly well known to all those who have visited the Eternal City, that this very quarter is remarkable for a concentration of every nuisance, whether solid, fluid, or gaseous, that is capable of exciting disgust or causing disease. If, then, unflushed sewers, stagnant cesspools, noisome dunghills, and all the countless abominations which render the quarter inhabited by the descendants of Abraham a bye-word even among the Romans,—themselves the filthiest of Christians,—if, I say, cholera spared the Jews inhabiting such a locality, can it be produced anywhere by those agencies, on which the advocates of the doctrine of dirt and want of drainage being its causes, so confidently rely?"

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A REPORT

OF A

SANITARY TOUR.



To the Under Secretary of State for India.

From Surgeon T. G. Hewlett, Health Officer of Bombay.

Sir,

I have the honour to report to you, for the information of the Secretary of State for India, that in accordance with the permission granted to me in your letter, dated June 3rd, 1869, I have visited the Towns marginally noted with the view of inspecting works of Main Sewerage, Water Supply, and Sewage Irrigation.

These Towns embrace the following classes—

1st.—Those situate in purely agricultural districts, such as Banbury, Warwick, Rugby, Bedford, &c.

2nd.—Inland centres of Manufacture, such as Birmingham, Manchester, Leeds, &c.

3rd.—Seaport Towns, such as Liverpool, Glasgow, Swansea, Portsmouth, &c.

The moral, physical, and economical conditions in each class vary, and had I proposed to have undertaken a statistical and special enquiry, embracing all the causes that affect the Sanitary standard of each particular Town, such conditions would have had to be specially considered and reported upon; but such an analysis would have necessitated a long residence in each place, and would have been beyond the scope of the present enquiry.

It therefore appeared to me desirable to trust to the Local Authorities for a description of the various

works and facts relating to Sanitation in each particular Town, and I accordingly append statements which have been compiled from extracts from reports and from information given me by Local Authorities.

I can never be sufficiently grateful for the kindness which Mr. Rawlinson's introduction ensured me at most of the Towns under report, or for the very liberal manner in which I have been supplied with printed reports, plans, maps, etc., etc.

My especial thanks are due to Mr. Newlands, the Borough Engineer of Liverpool, who furnished me with copies of his own and Dr. Trench's reports, besides those on all other matters concerning the Municipal Administration of that City.

I am also much indebted to Mr. Till and Mr. Gray of Birmingham, to Mr. Filliter of Leeds, to Dr. Little and Mr. Lynde, of Manchester, to Mr. MacPherson of Edinburgh, who gave me Dr. Littlejohn's admirable report on the Sanitary state of that City, to Mr. Carrick and in an especial manner to Dr. Gairdner of Glasgow, whose reports are particularly valuable, to Mr. Cousins and Dr. Davies of Swansea, to Mr. Latham of Croydon, as well as to other gentlemen with whom I was brought in contact.

The literature pertaining to Sanitation, embodying the varied experiences of all the most skilful Engineers and Officers of Health in the United Kingdom, would be of incalculably greater value if it were more easily obtainable, and it seems to me to be a matter of regret that all such reports are not forwarded to a central office for distribution not only to other Towns in the Kingdom but to the Colonies, as at present they are beyond the reach of the public, being only circulated among the members of the particular Municipality to which they refer.

In this sketch I shall confine myself to summarizing those lessons I have learnt which appear to me to be

more especially applicable to India, and shall venture to make suggestions regarding those points which seem to me might be advantageously entertained for adoption in India.

I would premise, however, lest it should be thought that I at all depart from matters more immediately connected with my profession in giving an opinion as to certain details of Sanitary Engineering that I would ask for indulgence on the plea that as the origin of certain diseases is undoubtedly to be traced to the faulty construction of Works of Sewerage, etc., I, as a Health Officer, must be necessarily interested in seeing, and should fail in my duty if I did not see, that all those avenues through which, in my opinion, disease may be entailed on a people committed to my charge are efficiently defended in the only way I believe they possibly can be, in the introduction of those works which, if constructed on true hygienic and common sense principles, are among the greatest blessings engineering science has conferred upon communities, but which prove the entire reverse if the principles I allude to are neglected.

Viewing then the question of Sanitary Engineering as a border land in which Engineers and Officers of Health are both equally interested, and in which they may both freely express their opinions, I would state my conviction that any system must fail if it is not *universally* adopted in the inhabited place to which it is applied.

In Manchester, Liverpool, Birmingham, etc., only a portion of the houses are fitted with water-closets. In the remainder, and in Manchester, (where the Corporation discourages their use,) in the larger portion there are middensteads, or receptacles both for nightsoil and ashes, which are in my opinion doubly objectionable, as they have to be periodically cleaned at a great expense; but as they necessarily entail the accumulation of nightsoil in the vicinity of human habitations, are sources of danger, however carefully constructed or ventilated they may be.

As far as I can see, water-carriage appears to be, under existing circumstances, the most convenient vehicle for the removal of all refuse from large Towns in England.

This system has not yet been tried in India, and it remains to be seen whether it is the one best suited to the local habits of the people,* and whether a sufficient supply of water can be provided to carry the sewage to its outfall before decomposition has set in.

I will not in this paper discuss the question, whether in India it would not be better to exclude nightsoil altogether from the sewers, but, on the supposition that both the above conditions are fulfilled and that a general water-closet system has been determined upon, I hold that works of Main Sewerage to be effective should essentially embrace the following points, which have been so concisely expressed by Mr. Newlands, the Borough Engineer of Liverpool, in his Report of 1848, that I copy them from it,—

First.—The removal in covered conduits from the houses (Mr. Newlands adds “and of streets” but this I object to) of all refuse capable of suspension or solution in water, as fast as it is produced, in such a manner as shall prevent the generation of noxious gases.

Secondly.—The perfect underground drainage of the whole strata to such a depth as will keep the lowest parts of the buildings free from damp.

Thirdly.—The disposal of the refuse so that it may not pollute the natural drainage outlets, the streams or rivers in the vicinity, or vitiate the atmosphere, but may be applied to the legitimate use of increasing the fertility of the surrounding country.

The first condition, especially in a country like India where the rain only falls during certain months of the year, would, in my opinion, be best attained by the adoption of the separate system and by a strict observance of the rule that sewers should invariably be laid in straight lines, and be only of a size sufficient to remove the sewage matter, whilst the rainfall should be allowed to flow away into its natural channels.

* Since the above was written, I have heard from Dr. Sutherland, that an apparatus suitable for the manners and customs of Oriental races has been contrived by an Officer of the Royal Engineers, who has had great experience of the requirements of the natives in Turkey, and that the Turks are now introducing drainage, and similar latrines on their own account.

The success of such an apparatus would remove *one* of the objections to a water-closet system for India

The towns sewered under the direction of Mr. Rawlinson attracted my immediate attention by the observance of the common-sense rule of sewers laid in straight lines.

The introduction of stoneware or earthenware pipes as channels for the conveyance of sewage matter has effected a complete revolution in Sanitary Engineering, and I am fully satisfied that immense good would result if Government was pleased to send out to India men competent to instruct the natives in the manufacture of them.

While leaving the main sewers to be laid by the Engineer, I think that the Health Officer should still see that at their points of connection with inhabited houses no danger to health is likely to accrue.

The mode of laying the subordinate sewers which seems to me to be best, is the common-sense one which obtains at Swansea, and which from the existence of sweepers' passages would be peculiarly adapted to Bombay.

This, to quote from the Report of Mr. Davies, the able Medical Officer of Health of Swansea, is carried out as follows :—" Houses are not drained directly into the main sewer but into subordinate sewers at the rear of houses on both sides of the street. The sewers are easy of access, and the drainage of back premises is not carried under the houses. Each house is connected independently with the subordinate sewer, which is finally connected with the main."

Perfect ventilation of all the sewers is essentially necessary. I have seen many methods adopted to effect this most difficult but all important question. Either as Mr. Rawlinson always orders with so much success—to quote again from Dr. Davies—" by ventilating shafts in connection with every manhole along the course of the main sewer, at an average distance of 40 yards from each other, each ventilating shaft being fitted with trays filled with finely broken vegetable charcoal through which the gases must pass before they escape into the street."

I would here remark that some Engineers, especially

in Manufacturing Towns where there is a great escape of steam into the sewers, object to the use of charcoal for the reasons given by Mr. Newlands in his evidence before the Liverpool Mortality Sub-Committee, published in 1866, page 56, where he says "Charcoal in the concrete state is a very good condenser of gas, but I have always found it fail when brought into contact with watery vapour, as when it is put over a sewer. The action of the charcoal is mechanical—it acts as a sponge, and as its affinity for watery vapour is greater than for any gas it does not act so well as a deodorant in damp as in dry situations."

I was shewn however at Croydon, by Mr. Baldwin Latham, a charcoal ventilator lately invented by himself, which from its mechanical ingenuity will, I think, prove to be perfectly successful in its action, as all danger of the charcoal being in any degree wetted is entirely prevented.

At Liverpool and other towns the rain-water spouts, where the tops open above the level of the highest windows, are used to ventilate the sewers.

I cannot but think such a method is a hazardous one, though Mr. Newlands, whose great experience of course is extremely valuable, thinks they are safe; yet I do believe that in certain conditions of the atmosphere the sewer gases would be likely to be brought down into the sleeping apartments, and that therefore this method should not be adopted.

In Liverpool, Mr. Newlands has used for the last 18 years, and has lately greatly extended the introduction of the Archimedean Screw Ventilator. This consists of a pipe carried from the top of sewers to the summit of any high building adjoining; the pipe terminating in the Archimedean Screw Ventilator; and he proposes to apply these at the dead ends of sewers and where sewers and drains change their direction and gradient.

This invention appears to me likely to be of infinite use in India, not only for ventilating sewers but also

buildings, as it ensures a rapid exhaustion of the air below, and will act incessantly whenever there is, as in Bombay, a continuous current of air.

Ventilation by the connection of sewers with furnaces would be applicable in but a very few places in India.

The flushing of Sewers is effected in various ways—both by flushing chambers over the line of sewers filled by connections with the water mains; by self-acting tumbler receptacles, as at Swansea and at Leicester; by a moveable flushing tank, capable of holding upwards of 1,000 gallons of water which is suddenly discharged into the sewer. All of which methods are applicable to India.

Regarding the sanitary defences requisite to protect the interior of houses from the entrance of sewage gas, I think that all house drains should, just before their connection with the sewer, be fitted with a syphon trap, as at Swansea, Leeds, &c., and that all water-closets of course should be fitted with syphon traps. That the sink pipes from sculleries, kitchens, baths, etc., should—as recommended at Manchester and Swansea—not be carried direct into the house drain, but be led outside the houses and there fall from a height not less than 1 foot into a covered receptacle, capable of being cleaned and fitted with a syphon trap, which should communicate with the house drain, and that the house drain itself should in all cases be fitted with a special ventilating pipe to be carried 6 feet above the top of the house.

As a still further and most important protection of houses, I would insist on every water-closet being fitted with an especial ventilating shaft, which should likewise be carried above the roof of the house.

The measures above-mentioned severally appear to me to be necessary to prevent the entrance of Sewer gas into houses, and I do not think that any one of them

could safely be dispensed with, especially in the case of house connections with Sewers conveying nightsoil.

The evidence of most Engineers I have asked seems to prove that the house drains as a general rule should not be of a less or greater size than 6 inches.

The trough water-closets in use at Liverpool, and the self-flushing tumbler water-closets at Leeds, where they answer remarkably well, appear to me to be the best kind for use in poorer districts, especially for closets which are frequented by more than one family.

As regards the disposal of sewage, I am certain that any attempt at rendering the effluent water pure by the separation of the mechanical impurities held in suspension must prove abortive, whether by the use of filters as at Coventry, or by precipitation with lime as at Leicester, or by simple settling tanks as at Birmingham, or by the A B C process as at Leamington, or by the use of chemical agents, as it is hopeless by either one or any of these operations to render the effluent water anything else than sewage.

All these plans appear to me to fail in meeting the requirements of the case, and the continued practice of allowing the effluent water to pollute running streams, as at Coventry, Birmingham, etc., seems to me to be exceedingly wrong.

Being quite convinced that, in the course of a few years, the question among practical farmers will be, not whether sewage can profitably and without danger to the public health be applied to land, but which farmer can succeed in getting even a share of the much-coveted sewage, I will first notice what appeared to me to be the best plan for effecting the separation of the solid matter from the sewage before its application to land, for this I consider, especially for India, to be a necessity. At Bedford, where the separation was only partially effected, there was in parts of the fields where the sewage had settled a dried

black scum, which under the hot sun of India would have given off an offensive odor.

In India, from the habit of the natives using water after defæcation, there will not be nearly as much solid matter as in the sewage in England.

The means that I have seen used for effecting its separation are, as I stated above, by simple mechanical deposition; by filtration through coarse gravel and stones; by precipitation with lime; by the use of other ingredients, such as in the A B C process (animal charcoal, blood, alum, and clay.) And the general plan adopted is to have at the outlet, extensive masonry beds, either covered as at Coventry, or uncovered as at Birmingham, etc., in which these operations are conducted, and from which an offensive smell is liable to be given off during the process of cleaning.

I believe all these plans will be entirely superseded by a simple but most ingenious contrivance invented by Mr. Baldwin Latham, and which I saw being experimented upon at Croydon.

In the middle of the stream of sewage at the outfall has been erected a turbine, which, acted upon by the cleansed sewage water, revolves between itself and the main stream of sewage an iron wheel about 14 feet diameter and about 2 deep, which is divided from the outer edge to the centre into compartments which intercept the solid matter, (consisting of all kinds of filth, among which I saw a dead dog, a tin biscuit box, road drift, etc.,) which is carried up until the compartment is over the central line, when the solid matter falls over the central axis which is furnished with an Archimedean Screw which worms it to a point outside the end of the axis, where another screw conveys it to wagons standing ready to receive it and by which it is periodically removed: while the side of the wheel furthest from the incoming sewage is covered with galvanized iron network, through which the strained water passes.

The next point to be considered is the quantity of land which would be necessary for a given population.

I do not think that this question can be answered off hand. At Barking and Croydon from 5,000 to 6,000 tons of sewage, or a quantity equal to 100 persons per acre, have been applied to every acre. At Banbury I was told this was too strong a proportion, and that 80 persons per acre would be a better dilution; but so much depends on varying conditions of population, soil, etc., that I believe this question will in each place have to be settled by the consideration of local peculiarities.

Regarding the, to me, most important question of how near to the inhabited place may a sewage farm be established without danger to the public health. I cannot say that from any evidence I have been able to collect I have arrived at any very definite conclusions based upon facts.

I enquired into the alleged outbreak of disease at Carlisle in consequence of the sewage farm, and the result will be found in the statement compiled from information kindly given by Mr. Morley.

As regards the Craigentenny meadows, near Edinburgh, Dr. Littlejohn says—"Under the influence of the improved agriculture of the present century, extensive swampy tracts which existed to the west of Edinburgh have been reclaimed, and it is to be regretted that the sewage of the inhabitants should now be employed to create an evil from which we have so recently been delivered. * * *

At present there is no control over this irrigation. No one can inspect it in operation without seeing that it is carried in the cheapest and most slovenly way, and the smells complained of arise chiefly from the foul state of the larger channels. * * *

Edinburgh, from its situation, is peculiarly exposed to suffer from the effects of the emanations from these meadows. The easterly are our most prevailing winds, which pass across these meadows before they sweep over the new and the more elevated portions of the Old Town; and it has been plausibly conjectured that the insalubrity of these winds depend largely on this contamination. But, at any rate, a city surrounded by swamps cannot be regarded in a sound sanitary condition, and it is highly probable that a great

part of the mortality of the Abbey and some of the poorer districts of the Old Town is in a great measure owing to the unhealthy character of these breezes which blow so continually during many months. It is difficult otherwise to account for the high death-rate of the district of the Abbey, in which there is little overcrowding and where only a small population can be said to belong to the poorer class."

Complaints have also been made regarding other farms, especially when they are first formed ; but much of these complaints may be due to prejudice. Certainly during my visits I did not discover in any farm anything offensive to the sense of smell ; but it is at present impossible to say what the effect may be on persons habitually exposed to currents of air passing over a farm whose success depends on irrigation with matters in solution which are readily putrescible.

Having then due regard to the dampness of soil, evaporation from surface, and increased vegetation consequent on irrigating land with sewage, I think that the question of distance from the inhabited place must depend to a great degree on the number of population, on the quantity of water carried to the outfall, and the capacity for absorption of the soil to which the sewage is applied.

For a population of upwards of 200,000 persons, with a quantity of sewage equal to 30 gallons per head, my impression is that a less distance than 3 miles would not be safe ; but, as I said before, more evidence is required on the subject before a definite conclusion could be arrived at.

Engineers, Ratepayers, and Farmers would all be interested in reducing the distance as much as possible ; but Health Officers would, in my opinion, view with anxiety any scheme proposing to put large volumes of sewage on land nearer inhabited places than I have mentioned.

Regarding the best method of applying sewage to the land, for England as well as India, I am convinced the simpler the means used the more surely will success attend the experiment, whether from a sanitary or pecuniary point of view.

The first thing is to have the land—as at Aldershot—scrupulously levelled on a slope. This may entail a heavy outlay at first, but such an expenditure will be amply repaid by the power of

utilizing equally every part of every field. Common sense should have prevented the adoption of the ridge and furrow system, as it stands to reason that the sewage matter must lie in the furrows for unequal distances, and that the ridges could get but little sewage; and yet I saw land at some farms in the ridge and furrow.

Of course the sewage would be delivered, whether by gravitation or by pumping, at the highest level of the farm, from whence main carriers which it is advisable should be covered, (as at Norwood) can be laid so as to command the areas below them, and these areas can be divided into panes by simple earth trenches, of course according to the contour of the land, but generally at about a distance of 70 feet from one another.

The expensive arrangements connected with these communicating carriers that obtains at Worthing are very unnecessary; a simple piece of board puddled in with earth being all that is requisite; but, as Mr. Clifford says in his most excellent report on the Warwick Farm, and to which I beg to call especial attention, the natives of India are all "skilled irrigators," and I have no fear but that they will, under supervision, lay out the ground to the best advantage.

All crops are improved by sewage, but, as Mr. Clifford says, Italian rye grass is a "gross feeder" and will take "any quantity" of sewage. After the 3rd year, however, it is advisable to plough up and re-sow either with rye grass or a root crop such as mangold wurzel.

Italian rye grass seems peculiarly well adapted for the supply of food for the cattle of a large city like Bombay; and though I have seen celery, broccoli, etc., etc., growing under the application of sewage, yet for India, knowing, as I well know, the childish fears and superstitions that the natives hold with regard to European interference with anything connected with their food, I should advise that at first sewage be applied only to food grown for cattle or to cotton fields, leaving the natives themselves, as doubtless they would when they find it would pay, to apply it for the growth of esculent vegetables.

About 5 or 6 crops of Italian rye grass, weighing from 16 to 20 tons per acre, seems to be the average annual yield of land irrigated by sewage.

I also directed my attention to the requirements of isolated places in rural districts beyond the reach of main sewers. The method I

think suitable for them may be perhaps best illustrated by relating the conditions I found on a small property I was consulted about and the measures I took to cure them.

The house, with garden attached, was situated within its own fence enclosing about 2 acres of land, and having only one cottage in the immediate vicinity.

In the garden was the servants' privy, which consisted merely of a seat over a bricked cesspool, which was within 40 feet of the stable well, the water of which was used for drinking. I had the cesspit thoroughly cleaned out, lime-whited, and the seat nailed up, and a Moule's Earth Closet placed inside. The pail being emptied every day into a trench in the garden.

Inside the house was a water-closet, which discharged into a cesspool 8 feet from the house, into which the water from the scullery also flowed, and the drain from both passed alongside a well used for drinking purposes, the cesspool being only 15 feet distant from, and on a higher level than, the well. The gravel between the cesspool and well was black and stinking. I had the cesspool cleaned out and lime-whited.

An earth closet was inadmissible within the house, so I placed within the cesspool one of Chessyre's Intercepting Tanks. This is almost hermetically sealed, as it is double syphon trapped. The solid matter, paper, etc., is arrested by a screen which permits the passage of water, which flows away through a syphon-trapped glazed pipe, and eventually discharges itself at a distance from the house beyond the property into a surface drain. The smell both inside and outside the house, before much complained of has entirely disappeared. The iron tank will require cleaning periodically, the patentee states once in 6 months, but this is a matter for experience to decide.

In order to secure the Drainage of subsoil, I would in all cases insist on the condition laid down by Mr. Chadwick, in his Paper on the Sanitary Principles of Cottage Improvement, and published in the Journal of the Society of Arts, viz., that the Water Table shall be lowered not less than 3 feet. I hold this to be of the greatest importance, especially in the malarious soil of India, where too often residences consist of one floor only, elevated above the ground by a plinth of a few feet high.

I would certainly prefer that the subsoil water was carried away by the rainwater drains; but if that cannot be done I recommend

that all subsoil drains shall, before their junction with the sewers, be not only syphon-trapped but ventilated between the syphon and the sewer, otherwise sewer gas may find its way into the house.

As regards the Water Supply of Towns, I hold that the Medical Officer of Health should direct his attention primarily to the purity, and secondly to the sufficiency of the quantity of the water supplied to his people ; and that then, leaving the purely engineering questions of collection and stowage to those best fitted to deal with these matters, should see that by its distribution no injury was entailed on the Public Health. From the evidence I could collect, it appears to me that when a sufficient quantity of pure water is stored it should be at all hours of the day and night at the disposal of the people ; that in its passage from the Reservoir to the houses in the Town it should be guarded against any possibility of being tainted by any foreign matter whatsoever, and that the water used for domestic purposes should not be stored in any cisterns, which are always liable to be fouled, but that it should be drawn off direct from the mains.

If cisterns for water-closets are necessary to prevent waste, that only those on the principle of Messrs. Guest & Chrimes waste water preventers be adopted, as these provide a sufficient quantity of waste to flush the soil pipe on each occasion of the closet being used, but have no overflow into the sewer.

All house taps should be of the best possible construction, and obtained from the best makers such as Messrs Guest & Chrimes, or Messrs. Kennedy, as cheap fittings have been well described as the curse of water-works.

The waste of water should be prevented as it entails an unwholesome wetness of the subsoil, and consequently exposes the people to evils arising from damp.

To give some idea of the extent to which such waste may prevail, Mr. Latham in a recent report to the Croydon Board of Health, estimates that nearly $1\frac{1}{2}$ million gallons are daily lost by leakage or illegitimate use.

The best kind of water-waste preventer for stand pipes in streets that I have ever seen is that made by Messrs Kennedy, and in extensive use in Birmingham. This will only supply water as long as an iron cone, which allows the water to escape, is turned by the

hand. It cannot get out of order or be kept open by improper means, and would be especially useful in Bombay.

I cannot but think that the water supply of Towns should be at once removed from the hands of Companies, and placed under the control of the sewer authorities.

But, few places in India would however be for years to come supplied by water brought in from a distance. The present supply is too often obtained from the village tank, which is almost invariably filled with the debris of vegetation.

Much I think might be done to improve the condition of this water by the use of the usual sand and gravel filters, but the filtered water should not, as at Rugby, etc., be exposed to the liability of being tainted by the floating impurities of the air, but be received into covered reservoirs from whence it might be drawn off as required.

As an Executive Health Officer I was much interested in seeing the way in which the scavenging of Cities is performed, and especially in the arrangements adopted in Edinburgh and Liverpool, for I am convinced that however well a Town may be sewered, yet, that the removal of the surface filth is a matter of equal importance. In India almost all the filth that can be collected is from the surface.

The faithful persistent cleansing of the surface can only be effected at a great cost, and in India we cannot at present reduce this, as in the United Kingdom, by the sale of the refuse as manure.

No one can peruse the earnest and invaluable reports of such men as

Dr. Gairdner,	the Medical Officer of Health for	Glasgow,
Dr. Littlejohn,	„ „ „	Edinburgh,
Dr. Trench,	„ „ „	Liverpool,
Dr. Little,	„ „ „	Manchester,
Dr. Robinson,	„ „ „	Leeds,
Dr. Davies,	„ „ „	Swansea,

without feeling that the very greatest amount of sanitary knowledge is placed at the disposal of the various communities to which they belong. In the reports of these Officers are many hints which would be of the utmost value to the members of the Medical Services in India. "The Cholera Instructions" issued by Dr. Gairdner in 1866 are of infinite importance, and should be more generally known; but from these reports the lesson may be learnt, that a good sewerage system, a pure water supply, a scientific application of the sewage to the land, combined with a proper cleansing of the surface will be

inefficient as long as the tenements of the inhabited place are overcrowded, illventilated, and shut out from fresh air and light ;—as long as the refuse and waste products of negligent traders are allowed to vitiate the atmosphere, as by the deadly arsenical and sulphurous fumes given out from the copper smelting furnaces of Swansea, or by the horrible bronchitic giving smoke belched forth from the chimnies of Lancashire, where earth, air, water, and animals are alike fouled by the shameless waste of coal. And here I would speak of what has indeed been told me by Municipal Officers in many Towns—that local self-government uncontrolled by the supervision of a central authority is, and must be a fatal bar to the sanitary improvement of that kind of property which stand most in need of it, and that the liberal minded men of such boards are out voted by the petty shopkeeper class whose only desire is to keep down the local rates, careless so long as they save their own pockets, whether the sanitary requirements of the poor are uncared for. It would, in my opinion, be a sad day for the welfare of India if the control of sanitary improvement were to be vested in the hands of local authorities, without the State exercising a due supervision in order to compel the sanitary requirements of the masses receiving that care and attention which they have a right to expect from a wise and provident Government.

I have the honour to be, Sir,

Your most obedient humble Servant,

T. G. HEWLETT,

*Surgeon Bombay Army,
Health Officer & Coroner
City of Bombay.*

October 15th, 1869.

Brook Cottage, Sunning Hill, Berkshire.

Information from the Towns of WIGAN, LANCASTER, TYNEMOUTH, and DOVER, was not received in time for publication.

BANBURY.

The following Statement is copied almost verbatim from a valuable Report, kindly placed at my disposal by the Author, THOMAS PAIN, Esq., Clerk to the Local Board at Banbury. Certain Extracts from the Municipal Corporation Directory have also been embodied in it.

The district of Banbury comprises the corporate borough of Banbury, and the non-corporate township of Neithrop, in the county of Oxford, and Grimsbury, in the county of Northampton.

In 1852, the provisions of the Local Government Act were applied to Banbury, and a Local Board of Health formed. It is composed of 13 members, 6 selected from the Town Council, and 6 elected by the non-corporate parts, whilst the Mayor for the time being is ex-officio a member of the Board.

The principal trade consists in the manufacture of girths and webbings for exportation to the Continent; there is also an agricultural implement manufactory, and the Town is a centre for the sale of agricultural produce.

The population of the district in 1861 was stated to be 10,238; it is now (1869) estimated at about 11,000. The area is 4,000 acres, and the rateable value £39,227 17s. 6d.

In 1868, the rate in Banbury was 1s. 11d. in the pound.

"	"	Neithrop	1s. 9d.	"	"
"	"	Grimsbury	2s. 4d.	"	"

Shortly after the formation of the Local Board of Health, a system of drainage was commenced, the greater part of which was executed in 1855 and 1856. It carries away both the storm water and the sewage, and originally had its out-fall in the Cherwell, a small river or stream which flows past the Town.

Complaints soon after arose from parties living further down the stream that the river was poisoned. Deposit and filtration tanks were erected at a cost of about £500, with a view of remedying the annoyance complained of; but as these works did not prove effective, the Board subsequently spent about £800 in making additional tanks, and first applied carbolic acid and lime, and afterwards perchloride of iron and lime, with a view to deodorize and disinfect the sewage, before it passed into the stream, but with the like unsuccessful result.

The owner of Twyford mill, 3 miles off, moved for an injunction in the Court of Chancery, which was granted, forbidding the further discharge of the sewage into the river, so as to cause annoyance and injury to the plaintiff. A writ of sequestration followed but was not put in force, as the Local Board determined to try the effect of the application of the sewage to the land, and accordingly a Farm was obtained at about a mile's distance from the Town.

The fresh sewage of the Town is conducted by a main sewer into the above-mentioned tanks, which may be described as deposit, filtration, and stowage tanks.

Filtration is effected through an upward filter composed of small stones and gravel.

After passing through the deposit and filtration tanks, where the solid matter, paper, etc. is arrested, the liquid sewage passes into a tank from a well connected with which, it is pumped by a condensing engine of 18-horse power up to the highest level on the north west corner of the farm.

The deposit and filtration tanks contain together an area of 510 superficial yards, and are capable of holding in the aggregate about 130,000 gallons, whilst the stowage tanks are of sufficient space to hold about 100,000 gallons—the amount of a night's flow; and this large tank space has been found advantageous, not only for the purpose of deposit and filtration, but in rendering any night pumping unnecessary.

The deposit and filtration tanks are in duplicate, and each set is emptied about once a month, and the deposit mixed with the sweepings of the streets and ashes, and other refuse collected from houses, is then conveyed in boats along the Oxford Canal which adjoins the sewage works, and sold to the occupiers of land on the banks of the Canal.

The farm contains about 60 acres of arable and 76 acres of pasture including one acre of roads. The soil is generally of a very stiff loam though in parts gravelly. During the winter of 1866, and the spring and part of the summer of 1867, the arable land was levelled, and with the exception of 2 pasture fields, containing 24 acres, which are in ridge and furrow, the whole of the farm has been also levelled. The part in ridge and furrow is irrigated, but is found not to be so suitable for sewage irrigation as the levelled part, inasmuch as the sewage is not so regularly distributed over all parts of the land; the sewage flowing from the two ridges gives too much to the furrows.

The sewage from its outlet on the highest level flows by gravitation through carriers or trenches cut in the earth on raised embankments, and from the main carriers is conducted by smaller ones to any part requiring irrigation, and after having passed over the land is discharged free from smell into the river Cherwell.

The principal crop is Italian rye grass; there is also an acre of cabbage, and a small quantity of carrots and parsnips, and about 14 or 15 acres of mangold wurzel. For all these root crops the sewage is applied to the land before sowing, and not whilst they are growing.

The following is an account of the Receipts and Expenditure in respect of the Farm for the year 1868:—

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Amount realized for sale of Rye			A year's rent less property Tax ...	605	3 1
Grass	561	16 6	Rates and Taxes for the year ...	57	4 7
Do. for Mowing Grass	347	18 2	Coals for Engine	111	16 0
Do. for Oats... ..	198	0 0	Labor on Farm, including Engine-		
Do. for Aftermath	166	11 8	driver's wages	216	2 0
Right of Shooting over Farm and			Seeds, Implements, etc.	82	0 6
Sundries	6	1 6	Manager's salary	45	0 0
	£1280	7 10	Auctioneer's expenses of Sale, including		
Deduct Payments	£1190	13 1	Commission	73	6 11
Profit on Farm ...	£89	14 9		£1190	13 1

The adoption of the irrigation works cost £4,000, and £1,500 had been previously borrowed for the erection of tanks, etc., or £5,500 in all. This amount is to be paid off in 30 annual instalments of principal and interest at 5 per cent. The instalment therefore of principal and interest in respect of the loan of £4,000, borrowed to carry out the Irrigation Works would be £250 (£200 interest of £50 principal). If therefore the profit on Farm has to be deducted from this, there would be a loss of £160 5s. 3d., which would be about 3½d. per head of the whole population (estimated at 11,000) for the removal of all of the excreta of the inhabitants.

The death rate has decreased since the introduction of the Public Health Act, when it was 26 per 1,000 of the population.

In 1859 it was 20 per 1,000.

1860	„	18½	„
1861	„	14	„
1862	„	14½	„
1863	„	17	„
1864	„	17½	„
1865	„	20	„
1866	„	17	„
1867	„	19	„
1868	„	20	„

so that the average of the last 9 years is 18 per 1,000.

The drinking water supply of Banbury is in the hands of a company. Its source of supply is from the river Cherwell, and the works are situated on the river, about a mile above the Town. The river water flows into two filtering beds, which are of the usual construction: the water filters through a layer of about 15 inches of fine sand, thence through about 12 inches of fine and 9 inches of coarse gravel, and lastly through about 6 inches of large rubble stones, which are laid in covered bricks with apertures at intervals. The filtered water passes through these brick drains to a centre drain, which opens into the bottom of the pure water well, from whence it flows into a suction well, and is pumped by a 16-horse power engine to a reservoir on the top of Hasington Farm, from whence the Town is supplied. This reservoir holds 248,000 gallons; but only about 190,000 gallons are pumped daily.

WARWICK.

The following Statement embodies information kindly given me by J. FENNA, Esq., Borough Surveyor; and also a most valuable report by W. CLIFFORD, Esq., under whose able management the sewage Farm has obtained so much success. Extracts have also been made from the Municipal Corporations' Directory.

The Town of Warwick has water communication with many Towns by means of the river Avon on which it is situated; and also by means of the Warwick and Birmingham, and the Warwick and Napton Canals. The Oxford and Birmingham branch of the Great Western Railway also runs through the Town.

Population, according to the census of 1861, 10,570.

Estimated in 1869 to be about 11,000.

Inhabited houses in 1861, 2272.

„ „ 1869, 2390.

A main drainago system was carried out in 1851. District sowered covers 1270 acres. The street gulleys and the roofs of the front of Houses are connected with surface drains, which convey the water from them to the river

Avon. The water from the back yards and from the roofs at the back of houses finds its way into the sewers. The main sewers are glazed earthenware pipes, varying in size from 18 in. at the outlet by 15 in., 12 in. to 9 in. at the top levels. There is a flushing pipe with a 2 in. cock at the head of every main pipe. Ventilation is effected through the rain water pipes.

About 200 houses in the Town are not connected with the sewers; at these there are cesspools, but they are being gradually abolished; so that in a short time all the houses will have water-closets. Every water-closet is fitted with a syphon trap.

The scavenging of the Town is performed by men employed by the Corporation.

MR. CLIFFORD'S REPORT.—

The sewage flows by gravitation from the Town to the pumping station, which is situated on the Stratford road about $\frac{3}{4}$ -mile from the Town. It empties into two reservoirs, each 76 ft. 6 in. long, and 17 ft. 6 in. wide at bottom.

112 ft. 6 in. „ 33 ft. 6 in. „ at top.

The depth of these reservoirs is 9 ft. 6 in., but they fill only to 8 ft.

At about 12 ft. from the entrance of the sewer, a screen composed of wooden planking perforated with holes about 1 inch in diameter, and separated by about 6 inches from each other extends across each reservoir. This screen is let into brickwork, and at the bottom and in the centre of each screen is a sluice. The paper and solid matter are arrested by the screen and periodically (about once in 12 months), are taken out, mixed with ashes, and sold as manure.

The sewage is then pumped by two engines, made by Gimson & Co., Leicester, each of 25-horse power. Each engine works a double acting pump, 18 in. diameter; 30 in. stroke; maximum speed 25 revolutions, minimum 20. Each pump forcing 1,080 gallons per minute. They pump the sewage through a rising main of 16 in. to a point 73 feet above the bottom of the well, on the Farm $\frac{3}{4}$ -mile distant.

The Warwick Farm consists of 102 acres generally of heavy clay land. It is about a mile from the Town. It is taken on lease of 21 years on a rental of £300. The tithes and taxes amount to about £100, making a total of £400. The lease dates from Lady-day, 1867. It was then about half arable, half pasture on the old ridge and furrow. With the exception of 1 field (12 acres) of old pasture, all the land was broken up, got into shape, and seeded down with Italian rye grass within the year. The sewage was first delivered in the last week of July, 1868; but there were frequent interruptions until December, since which time the delivery has been constant.

The upper portion of the Farm ($25\frac{1}{2}$ acres) is undulating, falling on two sides at different inclines, (which cover about 40 acres) to the flat land, containing about $36\frac{1}{2}$ acres.

The irrigation is by each-water pan and gutter, ridge and furrow, and bed, and the sewage is conveyed by open runs. The arterial drainage in 2 fields is perfect, on others very defective, some not at all.

The plant virtually lost its first year's growth, and suffered great injury from the heat and drought of 1868. No produce was obtained until the autumn of that year.

This year (1869) 4 and 5 crops have been cut to date (September). With

the exception of the 2nd spring crop all have been light. The yield of our best fields is as follows to acre—in tons :—

No. 1.	2.	3.	4.	5.	Time of cutting.
2.2	3.	2.12	1.18	3.16	Feb., March, and April.
12.8	10	3.8	6.16	5.8	May and June.
6.0	4.17	10.10	6.7	8.4	June and July.
3.4	3.16	4.10	4.7	3.10	July and August.
		3.0	2.16	2.13	August and September.

No. 1 is now (September) ready for cutting and No. 2 will be shortly.

The plant is becoming thin, dying out fast in many fields, and is largely replaced by natural grasses.

Owing to the nature of the soil, breaking it up is a serious and expensive matter, it can be only worked at certain seasons ; in fact when it can be caught,—to use a homely but apt expression.—tho land is either “all bricks or all mortar.” We have tried ploughing and skim ploughing and burning, but found both alike unsatisfactory and costly. The loss of time is frequently great, and the horses stalk and puddle the ground to an injurious extent. We are now trying the experiment of spade digging.

GRASS DEMAND.—Last year the grass was almost unsaleable, as the greatest possible prejudice existed against the use of sewage grass. The prejudice has fled in the face of experience ; the demand this year has been quite equal to the supply. Prices varied from 12/- to 16/- per ton. We cut the grass ourselves, and allow carts to go on the fields when possible, otherwise we convey it to the roads.

The field of old pasture, 12 acres, is ridge and furrow, with considerable fall on one side. It has been brought under irrigation.

The May crop was sold off in June, realizing £4 17s. 6d. per acre. Since then I have cut an aftermath for £30, and a second aftermath is forward.

Exclusive of loss in rental the cost of laying out the Farm has been about £10 per acre. Little or nothing has been done to the roads which are in a bad state : to put them into working order would cost at least £5 per acre.

There is a brook running round two sides of the Farm, into which the drainage of the surrounding land falls. We are not allowed to use the brook or any of the ditches that drain into it, therefore we have a catch drain surrounding the Farm which conveys our drainage to the outfall, when it passes under the brook by 2 16in. pipes acting as syphons ; it then runs down common watercourses into the Avon $\frac{3}{4}$ -mile distant. Being on clay our effluent discharge is large.

We have grown a few beans and potatoes which have done well. Virtually the Farm is in grass, and we shall continue it, as no other crop is of so little trouble and pays so well when the demand is good, as with us at present. We purpose laying out 3 acres with mangolds next season. The sewage of about 2,050 houses mixed with about 600,000 gallons of water comes into the Farm.

The delivery of sewage is very unequal, falling as low as 400,000 gallons daily in very dry weather, and rising over a million and a half of gallons daily in very wet weather. Everything is pumped up and the sewers flushed out once a week ; when this is done the sewage is pumped direct from the sewers, passing by iron pipes under the bed of the reservoir to the pumping well.

Most people anticipated nuisance from the working of the Farm ; for a time some fancied there was, but truth has convinced every one now, that a

sowage Farm is no nuisance, that it creates in fact less nuisance than often arises on an ordinary Farm when manuring the land. Sewage fresh and fresh has at the worst but the aroma of cabbage water, and in that state is harmless. When allowed to stand for 24 hours, decomposition sets in and noxious gases are given off, especially sulphuretted hydrogen, the presence of which may be known by the smell of rotten eggs, so common in the lanes and gullies of Calcutta.

The marvellous effects of sowage on land in developing its productive powers is shown in the fact of its giving 6 and 7 crops of grass in a climate like ours, where only one could be had without it. Sowage holds in solution and suspension the constituents necessary for the growth of the plant; water is the vehicle of supply. When a crop is cut the constituents are returned to the land and a fresh crop springs up. In the climate of India, which I know very well, after 27 years' sojourn there, I should anticipate marvellous results from the skilful application of the sewage to the land. In the natives themselves you have skilled irrigators; but I should imagine that their religious prejudices would prevent them from applying sewage to their own crops; but this would yield in time, when they saw the wonderful results. Whether rice will stand sewage treatment, will need experience to decide: to some extent it certainly would, if not to that of rye grass, which is a gross feeder and will take "any quantity" of sewage without injury. At all events the land could be treated with sewage for the next crop, and thus the area of its usefulness would be largely extended.

The application of sewage to all crops has been satisfactorily demonstrated that it can be usefully and profitably so employed in India I am as certain, as I am of my own identity. Time, experience, patience, and skill, are required, and these we can command to carry the measure to a successful issue. One has but to see the Warwick Farm to see how readily it is done, and how satisfactorily and successfully sewage irrigation works.

THE WARWICK WATERWORKS were carried out the same time as the Drainage Works. The water drawn from the river Avon flows through an earthenware pipe 18in. diameter into a settling tank

100 ft. long by 50 ft. 6 in. broad at top, sloping down to
60 ft. long by 36 ft. broad at bottom.

Here the floating impurities are arrested and the water flows into 2 filtering beds, one being 100 ft. long by 78 ft. broad at top, sloping down to
66 ft. long by 44 ft. broad at bottom.

2nd.—110 ft. long by 88 ft. broad at top, sloping down to
78 ft. long by 46 ft. broad at bottom.

Down the centre of each bed runs a pipe with 5 cross branches. The water entering at the top filters through sand, 12in.; fine gravel, 6in.; coarse gravel, 3ft.; large stones, 18in.

The filtered water passes to a well from whence it is pumped by an engine a distance of $1\frac{1}{4}$ -mile, to a service reservoir in the Town, a height of 128 ft. from the bottom of pumping well.

The main is 12in. House connections for drinking purposes are laid direct from pumping main. The supply is intermittent, but the pumps are in action from 6 a.m. to 9 p.m. The Corporation insist on having one of MESSRS. GUEST & CHURCHES' water-waste preventors fixed to every closet, because the water by them is economized, and a better flush is secured. LAMBERT's screw taps are used in the houses. About 56,000 gallons are kept in the reservoir on the top of the water tower, which is 70 feet in height, in case of fire. The average daily supply amounts to 310,000 gallons.

The cost of the execution of the drainage and water supply works amounted to £25,000. This sum was raised by a mortgage of the general district rates (3/- in the £1), and is repayable (principal and interest at $4\frac{1}{4}$ per cent) by 30 annual instalments. This loan was advanced by an Insurance Company.

This loan of £25,000 does not include the cost of the Sewage Farm, which amounted to £11,000 in addition, which was raised by mortgage of same rate at $4\frac{1}{2}$ per cent interest, repayable in same number of years.

COVENTRY.

The following information is gathered from a Memorandum supplied to me by the Borough Surveyor, E. J. PURNELL, Esq., and I have also made extracts from the Municipal Corporations' Directory.

The Town of Coventry is an important manufacturing City in Warwickshire, the manufactures include silk fabrics and ribbons, lace, carpets, watches, and machinery.

The Public Health Act was applied in the year 1849.

Statistics:—Population estimated at 42,000; inhabited houses, 10,400; rateable value, £99,664; acreage 1,660 acres, of which 600 are built upon; number of streets, 171; length of streets, 27 miles; average annual mortality for the 10 years 1851-1860, 25 per 1,000. The sewerage carries off both rainfall and sewage. The main sewer is about 2 miles long, and varies in size from 3 ft. 6 in. by 2 ft. 6 in. to 4 ft. by 3 ft. at outfall; it is built of brick, eggshaped, invert set in cement; 4 or 5 miles of the subsidiary sewers are glazed earthenware pipes from 6 in. to 12 in. in diameter; the number of water closets, 3,813, but many of these are double making the aggregate nearly 5,000; there are numerous cesspools in the Town. The main sewers and subsidiary drains are flushed by perpendicular shafts charged with water from the nearest hydrant.

The sewers are ventilated principally by down spouts, there being 1,230 connected in the Town.

Total cost of sewers, £35,000, this includes £6,000 for constructing works, purchase of water power, etc. The main sewer cost per yard about 23/-.

The outlet of the sewers is distant about a mile from the Town, and by it the sewage is conducted to the tanks which are in duplicate.

The tanks are brick-work enclosures divided on either side into two partitions, each communicating with a central drain. They are 124 ft. long and the 1st tank is 18 ft. broad, the 2nd 9 ft., and the central drain 6 ft., they are 14 ft. deep. Between No. 1 and No. 2 tank, and between No. 2 and the central drain are filter beds which are enclosed by perforated planks of wood 7 ft. 6 in. high. The filter beds consist of large stones at the top, gradually diminishing in size until there is a layer of coarse gravel at the bottom.

The sewage water entering No. 1 tank, filters through the 1st filter bed into No. 2 tank, and any solid matter which may pass through No. 1 filter bed is arrested by No. 2, after passing through it escapes into the central drain, by which it is conducted through a culvert into the river Sherborne. About 1,800,000 gallons per day passes through the tanks.

The tanks are covered by brick arches, and over each tank are 5 iron gratings, over which a travelling crane runs upon rails, to this is attached a bucket holding about 28 gallons. The tanks are cleaned out once a month, and the solid

matter at the bottom is run into beds formed by street sweepings, with which it is covered and mixed, and sold for about 2/- a ton. About 1,440 tons of solid matter are thus intercepted during the year. The site on which these works stand covers 4,450 square yards.

The sewage tanks, including $4\frac{1}{2}$ acres of land and 1,100 feet of inlet sewer, cost £4,320.

The annual expenses of the sewage works amounts to £140.

Amount received for manure in 1868, £120.

In Coventry there are about 6 large dye works, and although most of the solid matter is intercepted as explained above, the sewage runs away as a black inky fluid, and perfectly discolors the stream.

Just before the sewage is discharged into the river, it is occasionally intercepted and allowed to flow over about 14 acres of land, about 4 acres of which are sown with rye grass, and 10 with common English grasses.

In 1868, from the 4 acre field, the crop fetched	£35	0
The aftermath, or joist	£15	0
	—————	£50 0
From the 10 acres, there were 3 crops of hay	£180	10
The feeding off	£15	0
	—————	£195 10
		—————
	Total	£245 10

268 acres have been purchased on high ground sloping down to the river, for £27,000 and are about to be laid out for sewage irrigation. For these the sewage will have to be pumped up to the highest level.

THE WATERWORKS at Coventry were erected by the Corporation under a Special Act in 1846. They cost £33,000, the money was borrowed by mortgage at 4 per cent; annual working expenses, £2,700 to £2,900; profit, from £700 to £900

The supply is obtained from the following sources:—

- 1st.—From a spring at Radford, the water of which is conveyed for about a mile to the filter beds.
- 2nd.—From a land-spring from the gardens at the north-west of the Town, about $\frac{1}{4}$ -mile distant. Both the above are surface-springs and are dry during summer.
- 3rd.—From a small brook called the Barley brook, which flows from Radford; the water from this is let in by a sluice into a filter bed composed of sand 22in., fine and coarse gravel and stones, 24in., below are cross drains which carry the water to a centre drain, through which the filtered water passes into a collecting tank.
- 4th.—From Artesian wells sunk into the new red sandstone; these are 4 in number, 1st is 300 ft. deep; 2nd is 250 ft. deep; 3rd is 75 ft. deep; 4th is 75 ft. deep; these discharge direct into the collecting tank, which is circular in shape, 100 ft. diameter by 15 ft. deep, at 14 ft. 4 in., the water over-flows into the river Sherbourne.

The suction pipe, cast iron, 2ft. diameter, dips into the collecting tank to within 11 inches of the bottom; there is a wall about 3ft. high, built about 18in., from the suction pipe, to protect it from weeds, and especially from the silk weed which is very troublesome, and grows with great rapidity in the tank which is open; the American weed also grows in the tank but is not objected to.

The water is pumped up by two beam, double action, double cylinder engines, one is of 60 horse power, the other of 40 horse power; the 60 horse power one drives about 63 gallons a stroke, and about 1,000 strokes per hour, the water passes first through an air vessel and then through a 14in. iron main into the Town. There is also an air vessel over the suction pipe. The pumps are kept in action for about 12 hours.

The water passes by the mains through the Towns and supplies it in its passage, the surplus is pumped up to a service reservoir built on Barr's Hill, Radford, distant about a mile from the works, and situated 100 feet higher, and over a stand pipe 40 feet high, making a pumping lift of 140 feet. The average daily supply is about 700,000 gallons. The number of fire plugs is 109; hydrants, 294; standposts, 39; houses supplied, 7,364; water closets, 3813; meters, chiefly Kennedy's, 66; public wells and pumps, 21.

The water works stand on 4 acres of land, and there are 6 boilers altogether, though only two are used for each pump, these are fitted with Hulton's smoke burners. There are also public baths belonging to the Corporation, built at a cost of £5,325. They are kept open at an annual loss.

RUGBY.

The following statement is compiled from information kindly afforded me by I. M. WRATISLAW, Esq., Town Clerk, and J. E. PALMER, Esq., Town Surveyor.

The population of Rugby, according to the census of 1861, amounted to 7,818, but is now (1869) estimated to have reached about 9,000. The area of the parish is 1,600 acres, and there are estimated to be about 1,500 houses. The main sewers carry off both the rainfall and sewage; they consist of glazed earthenware pipes varying in size from 2ft. at the outfall to 9in. and extend over about 5 or 6 miles.

Water from the hydrants is used for flushing these, and they are ventilated through charcoal trays into the street at the manholes. Nearly all the houses are fitted with water-closets, which are connected with the sewers by pipes, varying in size from 4in. to 6in. The water-closets are syphon trapped. The sink connections 3in. in diameter are well trapped.

Ashes and dry refuse are collected in the back yards of houses in covered ash-pits, about 4 ft. by 3 ft., and 3 ft. or 4 ft. deep. The owners make arrangements to have these pits cleansed; but there is no systematic inspection by the local Authorities whether they are done so or not.

The sewage flows by gravitation through a high and a low level sewer to the Farm, which is situated about a mile from the Town. There are 58 acres on the Farm, 40 acres of which are irrigated by the high level sewer, and the remainder by the low level.

At the high level inlet the sewage is received into a diverting well, from which it flows into one of 2 depositing tanks which are open, and in which are fixed double strainers made of perforated wooden planks. The solid matter is arrested and is deposited, while the liquid sewage flows out through a 15in. earthenware pipe into the main carrier.

Each deposit tank is used in turn, and is periodically (about once a month) cleaned out, and the solid matter removed and covered over with refuse from the carriers, and used as manure.

The main carrier is simply an earth trench, with a fall of 1 ft. in 200 ft.; smaller ones with falls varying from 1 ft. in 600 ft. to 1 ft. in 1,000 ft. communicate with it.

The main carrier is 2 ft. 6 in. broad at the top, tapering down to 1 ft. at the bottom; it is 18in. deep. This is considered to be unnecessarily large: and one of 2 ft. broad at top, 9in. at bottom, and 1 ft. deep, would be preferred.

At intervals, depending on the nature of the ground, are wooden sluices let into brick wall sides.

The principal crop is Italian rye grass, though some mangold is planted. A crop of rye grass takes on an average a month or 6 weeks to grow. After cutting, the ground is saturated with sewage for 3 or 4 days; this of course varies with the amount of rainfall.

The sewage from the low level is obliged from the nature of the ground to be allowed to flow over growing crops, but they are none the better for it.

The effluent water passes off the land into the Avon, two miles below the source of drinking water supply to the Town; but during the summer the land absorbs all the water.

The land in which rye grass has been sown must be ploughed up and sown in with fresh seed every 3rd year; but it is advised that a crop of roots should be sown instead of rye grass every 4th year.

The sewage irrigation works cost £4,700. The first year's receipts were £350; though only a portion of the land was brought under cultivation. The money was raised on mortgage of rates at $4\frac{1}{2}$ per cent interest, principal and interest to be repaid by yearly instalments in 30 years.

RUGBY WATERWORKS.—There are two sources of supply; the principal one being from rainwater which is collected in a rural district, over an area of about 700 to 800 acres. The water so collected flows from numerous points, through earthenware pipes, gravitating by a central main to a covered reservoir, situated at about a mile's distance from the Town: this reservoir holds about 150,000 gallons. The water is pumped from this reservoir by a 15-horse power horizontal engine, to a tank holding about 50,000 gallons, on the top of a water tower 75 feet high. It thence flows through an iron 9in. main to the Town by gravity: it is laid on to nearly all the houses.

The pipes for drinking water purposes are connected direct with the main; but as the supply is intermittent, there are cisterns made of either iron or lead: water-waste preventers are not used. The above supply runs short during the hot weather, and is reduced to less than 35,000 gallons per day.

The subsidiary supply is obtained from the river Avon, about a mile from the Town. This flows into a well, from which it is pumped into a settling reservoir, holding about 2,500,000 gallons.

The mechanical impurities are deposited, and the supernatant water flows into filter beds, of which there are 2, each being about 40 feet long by 35 feet wide.

The filtering medium is composed of—fine sand, 6in.; magnetic earbide of iron and sand, 6in.; medium sand, 9in.; coarsest sand, 4in.; Gravel—size of peas, 4in.;—size of beans, 4in.;—size of walnuts, 6in.;—size of eggs, 4in.

The water after passing through the above, escapes by brick drains to a central drain, from which it is conducted through an iron sliding tube, into an open filtered water reservoir, holding about 70,000 gallons; and from thence it is pumped by the same engine to the water tower twice a day; from the water tower it flows through the same mains at the upper works into the Town.

The height pumped is 108 feet: the pumps are in action about 12 hours per day, and about 180 to 190,000 gallons are pumped during that time.

BEDFORD.

The following statement has been compiled from information kindly given me by the local Authorities. Extracts have also been made from the Municipal Corporations' Directory.

The Town lies on both sides of the river Onse. The Bedford level was reclaimed by drainage from being a salt marsh, and a great trade is carried on in corn and other grain.

Malt, coal, iron, and timber are considerable items of commerce carried on by means of the river which is navigable to the German Ocean. Lac making affords employment to great numbers of women and children, and there is in the Town one of the largest agricultural implement manufactories in the Kingdom.

Population, 1869, (estimated) 16,000; area of Borough, 1,962 acres; area sewered, 1,000 acres; number of houses, 3,400.

There are very few cesspools in Bedford, the number that do exist is supposed not to exceed 150.

Works of main drainage have been executed at a cost of £18,000. They are on the separate system, the storm water flowing to the river. There are 2 lines of main sewers, a high and low level; both discharge by gravitation to pumping station, a mile from the Town.

The main sewers are constructed of brick, and are egg-shaped. At the outfall the size is 4 ft. by 2 ft. 8 in. The smallest size of brick sewer is 2 ft. by 1 ft. 8 in. The subsidiary earthenware pipes range from 1 ft. 6 in. to 1 ft. 3 in. There are 2,464 water-closets connected with the sewer by 9 in. or 6 in. pipes, fitted with syphon traps.

The drains from the sinks, which are syphon-trapped, are on the outside of the walls of houses.

The sewers are flushed at their extreme ends from hydrants, through 3 in. pipes.

There are 90 special ventilating shafts, of 3 in. or 4 in. diameter, running up from the crown of the sewers to the top of chimney stacks.

There are manholes at the junction of each street, which are fitted with charcoal ventilators; and the rain-water pipes are also connected with the sewers, when they do not open near the windows of houses.

The soil is gravel and sand on the south side of the river; limestone and clay on the north.

The main sewer from the high level is laid under an embankment reclaimed from the river, and about a mile long. The sewage from the low level on the south side of the river, receiving the sewage of about 1,000 houses, passes by an iron pipe 15 in. in diameter under the river, and joins the main outlet. The main sewer flows into a brick tank, 12 ft. by 6 ft., by 6 ft. deep. At about 2 ft. from the outlet, and extending across the tank, is an iron grating 6 ft. high, the bars of which are about $\frac{1}{4}$ -inch apart. By this grating, the paper and solid matter are retained. The sewage then flows into a tank about 30 ft. by 12 ft., and 12 ft. deep, half way down which is a culvert which leads to a centrifugal pump, by which the sewage is lifted into a cast iron cylinder 1 $\frac{1}{2}$ -in. thick, 6 ft. diameter, and 15 ft. high, from which it flows by gravitation over the land, being conducted to it, for a distance of about $\frac{1}{2}$ a mile, through an iron pipe 1 ft. 6 in. in diameter.

Around the pumping station is a garden, in which there were at the time of my visit, growing beet-root, broccoli, asparagus, onions, lucerne, white turnips, etc. The sewage flows in this garden through earthen trenches, and is applied at intervals, perhaps of a week, to these crops for a day or two.

The sewage flows on to the Farm from the cylinder, through a pipe into a supply well, and thence through earthenware pipes carried along the highest ridge, from which earthenware carriers are laid at intervals of 60 or 70 yards. The sewage flows irregularly over the ground, as the land was not in the first instance properly levelled.

The Farm contains 50 acres; 37 of which are laid out in rye grass, 10 in mangold wurzel and cole rabbi, and 3 in wheat.

A crop of rye grass takes about 6 weeks to grow. After cutting, the sewage is allowed to flow over the field for 3 or 4 days, according to the state of the weather. No sewage is then allowed on for another week, when it is again applied. It should be applied 3 or 4 times during the growth of the crop. Rye grass sells for from £4

to £8 per acre. The field of mangold I saw growing in September, was planted in April. It was irrigated about a month after sowing, and once every fortnight since. It is intended to be pulled in October, and then the ground will be soaked with sewage during the winter, and early in the spring seeded down with rye grass. About 350,000 gallons were being pumped over the land in September, when the pumps were in action about 5 hours during each day: 600,000 gallons can be pumped in the 24 hours. When the pumps are not in action, a sluice is shut at the outlet, and the sewage is ponded back in the main sewer for about a mile.

The effluent water finds its way through various ditches into the river, about $1\frac{1}{2}$ -miles below the Town.

REDFORD WATERWORKS.—Established 1868.—Supply from an artesian well sunk in the limestone rock. The well is 14 ft. deep, and the boring 18 ft. into the rock. This yields 205,440 gallons a day, which are pumped by a beam engine into a reservoir, capable of holding 800,000 gallons. The reservoir is situated about a quarter of a mile from the well, which is in a hollow, and about $1\frac{1}{2}$ -miles from the town. The water is lifted about 160 ft. into a reservoir, and then is conducted by iron mains, 1 ft. diameter into the town. The supply is on the constant system. All water-closets are fitted with water-waste preventers, holding $3\frac{1}{2}$ gallons, after the pattern made by Messrs. GUEST & CHRIMES. The water-closets are fitted with Messrs. DOULTON'S, of Lambeth, pans.

The water works, including the main sewerage embankment, cost £23,000.

LEICESTER.

The following statement has been compiled from information kindly given me by E. L. STEPHENS, ESQ., the Borough Engineer, and from extracts from the Municipal Corporations' Directory.

Leicester is the centre of the worsted hosiery manufacture, which is the staple trade of the Town, along with lace, sewing cotton, wool combing, worsted spinning, &c.

Population estimated at 90,000; area of Borough, 3,000 acres; area of district sewered 1,200 acres; No. of houses, 20,000

The sewers which carry off both storm water and sewage, formerly discharged into the river Soar, at the nearest points. An intercepting sewer has since been built, with which the sewer from the west side of the Soar, communicates in its passage to the sewage works, which are situated on land adjoining the Abbey, on the north side of the Soar. The main sewers are built of brick, are circular in form, and vary in size from 2ft. 6in., to 5ft.

Flushing is effected by pipes from the hydrants, and from moveable tanks large enough to hold about 1,080 gallons, which are suddenly discharged into the sewer. It is calculated that about a million gallons of water are used during the quarter in flushing the sewers.

The method of ventilation adopted is to connect the sewers with the engine shafts of different manufactories. There are now (1869) 25 such connections. The rain-water pipes also communicate direct with the sewer, and ventilation is effected through them.

There are only about 6,000 water closets in the Town; but on cottage property, there is on an average only one water closet for every 4 cottages. The size of the water closet connections, varies from 6in. to 9in., they are all syphon trapped. The sinks are situated outside the houses, and communicate by a short drain, which is furnished with a trap, with the main sewer.

Middens or ash privies are numerous throughout the Town; they are estimated to amount to between 3,000 and 4,000. These are also connected with the sewers, so that the watery matter finds its way into them. The solid matter consisting of nightsoil and ashes remains, and is removed on an average once in 6 months.

The Construction of the sewers is estimated to have cost £40,000.

THE SEWAGE WORKS.—The sewage flows through a barrel culvert 4 ft. 6 in. in diameter, into 2 wells, each 7 ft. by 11 ft., and 12 ft. deep, from which it is pumped up 20 ft.

into reservoirs, which are 200 ft. long, 45 ft. broad, and 14 ft. deep. The reservoirs on section are triangular in shape, and so constructed that the gutter is in the centre.

The engines used for pumping are 2 Cornish engines, which consume about 20 tons of coal during a week, in lifting about 35 million gallons of sewage; they are each in action for about 12 hours per day.

In its passage from the supply well, the sewage receives, and is intimately mixed with, a solution of lime of the strength of 1 ton of lime to a million gallons of water. The sewage and lime then pass slowly over the reservoir, where the lime precipitates the solid matter.

The effluent water from the reservoir passes over a weir into the river Soar, which soon after joins the grand junction canal.

The reservoirs are in duplicate, and the sewage flows into one whilst the other is being emptied. This occurs about once a month, when the sludge at the bottom is lifted, and run down into earth embanked beds, where it is allowed to remain for 2 or 3 years to consolidate. It is then sold for one shilling a cartload as manure.

The sewage works cost £25,000.

The yearly expenses of working them amounts to £1,300.

From which must be deducted sale of manure ... £300.

Leaving £1,000 as the expense of working them.

THE WATER SUPPLY of Leicester is under a private company. Two brooks, the Thornton and Carr are impounded, and the water is collected in a reservoir, which holds 365 million gallons. The water passes through 4 filter beds, and is brought down 10 miles by an iron 24in. main to the service reservoir, which is 100 feet lower than the main reservoir. The service reservoir is situated a mile from the Town, and is about 90 feet above it. The water is distributed through about 25 miles of pipes, and is on the constant supply system. There are about 14,000 connections. No cisterns are allowed in houses except for water-closets when they are compulsory: each service cistern holds about 2 gallons. MESSRS. STOCK BROS., and TAYLOR'S taps are recommended to be used, but MESSRS. GUEST & CHRIMES' taps are permitted. About 21 gallons per head per day are supplied. These water works cost about £90,000.

The death rate for the year 1868 is stated to have been 27.855 per 1,000.

BIRMINGHAM.

The following statement has been compiled from information kindly given me by W. TILL, Esq., Borough Surveyor; J. W. GRAY, Esq., the Engineer to the Birmingham Water Works Company; and also from some extracts from the Municipal Corporations' Directory.

Birmingham is the great centre of hardware manufacture for England and the World. Every description of hardware, from the most ponderous steam engines to the smallest piece of jewellery being made here.

Population by census of 1861, 296,076; 1869, estimated 360,000; inhabited houses by census 1861, 59,060—by estimate, 1869, 70,000; estimated number of electors, 43,000, burgesses 47,000; gross estimated rental, about £1,260,000; rateable value, £1,052,796 19s. 9d.; area of borough, 8,420 acres; area sewered, 7,320.

THE MAIN DRAINAGE WORKS.—The length of sewers at present constructed amounts to 97 miles, leaving 36 miles still to be made by the Council. The cost including compensation of land, amounts to £200,000.

They consist of egg-shaped brick sewers and circular pipes, varying in size from 5ft. 9in. by 3ft. 6in. down to 12in. pipes. The main sewers are ventilated by shafts from their sources to the surface of the roads and are flushed by gates fixed in them and from shafts at dead ends.

The house connections are 9in. and 6in. pipes, with 4in. soil pipes. The proportion of water closets is very small, and every house almost has its privy and ash-pit.

The scavenging was formerly let to a contractor, who failed to perform the work satisfactorily and it is now done by the Corporation.

OUTLET WORKS.—The sewage flows down by 2 egg-shaped mains 5ft. 9in. by 4in. Their contents are received into a large culvert, which at either end has 7 arches, and which forms the side of 2 depositing tanks, which are 330ft. long, 90ft. broad, and 6½ft. deep. The tanks are in duplicate, to allow of one being used whilst the other is being cleaned.

Each depositing tank is divided into 3 sections: the sewage is allowed to flow into 1 tank for 14 days it is then diverted into the other whilst the full one is being cleaned; all the supernatant water is allowed to run off and the mud and sludge deposited at the bottom is lifted about 14 feet by a 13 H.P. engine, and run down into a depositing ground which covers about 7 acres, to a depth of about 4 feet. It remains on this ground for about a year, until it has become sufficiently consolidated for removal, but is covered over with gypsum to prevent smell at an annual cost of £100. About 42,000 cubic yards are removed from the tanks during the year.

13,615 tons of sewage manure were disposed of during the year 1867, and were sold for 9d. per ton. The charge for the manure at the works is 1/- per cart, 2/6 per waggon, and 29/- per boat load.

The Birmingham and Fazely Canal adjoins the works.

£25,000 were expended in construction of the works, purchase of land, etc., etc., and about £2,000 is the annual cost of maintainance.

The effluent water runs into the river Thames.

EXPERIMENTAL FARM AT OUTLET.—MR. TILL'S Report 1868.—About 50 acres of land belonging to the Council were double dug, levelled, and the necessary road carriers constructed so as to allow of the same being seeded down with Italian rye grass prior to July last, whilst 6 acres, on which the liquid sewage cannot be conveyed without pumping, have been planted with mangold and other experimental crops, such as clover, celery, cow-cabbages, swedes, turnips, etc., but owing to the lateness of the time of planting, and the excessive heat, the crops were not large.

The remainder of the meadow land was irrigated with the sewage several times during the season, and let out to cow keepers.

The amount received for sale of rye grass, was £314 9s. 3d.; for hay for cattle, £517 1s. 11d.; and for barley, oats, mangold, etc., £142 10s. 11d.; making a total of £973 14s. 1d.

THE WATER SUPPLY of Birmingham is in the hands of a private Company. Source of supply,—river Tame and its tributaries, also some artesian wells. The water flows and is pumped into 2 reservoirs at Aston. The 2 reservoirs are capable of holding 50 million gallons of water, and from them it is pumped by 6 steam beam engines (2 Cornish, 2 Baldwin, and 2 fly-wheel) through 2 22in. mains to a service reservoir, 265ft. above level of pumping well, capable of holding about 6 or 7 million gallons, and which is 3½ miles from pumps. From this reservoir a portion is pumped to another reservoir, distant about ¾ mile and 80ft. higher, which supplies the highest levels. The supply is constant, the pipes being always charged. Water closets are supplied from cisterns, (Dale's patent,) holding about 2 gallons. House connections are fitted with GUEST & CHRIMES' ½-inch screw valve taps. About 8,000,000 are supplied daily.

CHESSIRE'S INTERCEPTING TANKS.—At Birmingham I likewise saw in operation MR. CHESSIRE'S intercepting tank.

The box is 2ft. 4in. long, 18in. wide, 18in. deep. The pipe from the privy or closet having a syphon trap above it, passes into the top of the box at the opposite corner to the outlet pipe, which placed at the bottom of the box is divided from the main part by a perforated grating, extending across the corner and the whole height of the box. The lid is

sealed with putty, and the outlet pipe is also trapped with a syphon trap. All the water, urine, etc. runs away to the sewer, the solid matter, paper, etc. being retained to be periodically removed. This appears to be a better form of cesspool, and may be worth trying in places that have no regular system of drainage.

LIVERPOOL.

I am indebted for the following statement to the kindness of JAMES NEWLANDS, Esq., the Borough Engineer.

The area of the borough is 5,210 acres; of which there are occupied by buildings 4,148 acres, 2 roods, 23 perches, 725 yards; and unoccupied 1,061 acres, 3 roods, 16 perches, 23 pards. The length of streets is 221 miles,—of passages 90 miles. The length of street sewers is 189 miles 340 yards,—passage sewers 90 miles. The number of houses in the borough at the last census was—

Inhabited 65,781
Uninhabited 5,197

Total 70,978

The number of houses since built, to December 1868, is— 12,772

Making the total ... 83,750

But Railways and Town improvements have in that time demolished a number, which may be estimated at ... 1,359

Making the probable total number of houses ... 82,391

The population at the last census was ... 443,938

Corrected for increase to this date (Sep., 1869), is now estimated by the Registrar General ... 509,052

The rateable value of the Borough is £2,412,672.

The water supply is obtained from 4 wells in and about Liverpool, which yielded in 1868 ... 2,085,088,693 gallons, and from Rivington Pike, which has a watershed of 10,000 acres and store reservoirs, which form spacious lakes, upwards of 6 miles in length, with an average storage of 3,180 millions of gallons, and from which were delivered in 1868 ... 3,436,922,208 „ making the total quantity supplied to the Borough and the district traversed by the pipes in that year ... 5,522,010,901 „

The population of the district of water supply is estimated at 600,000.

The annual consumption per head for domestic purpose was in 1868—24.38 gallons. The mean annual rainfall from 1848 to 1868 was 46.053 inches. The maximum was 61.70 inches in 1852. The minimum was 34.80 inches in 1865.

The water closet system is general, and will soon become universal. In the last 5 years 15,000 privies were converted into water-closets, and the work is steadily proceeding.

The quantity of Sewage estimated to be discharged from all the Sewers of the Borough is 2,100,000 cubic feet or 18,125,000 gallons in the 24 hours, say in round numbers 60,000 tons.

The annual rainfall in Liverpool may be taken at 35 inches, which would give 1,809,504 cubic feet in 24 hours. An amount nearly equal to the sewage proper.

VENTILATION OF SEWERS AND DRAINS.—In addition to the ordinary ventilation through untrapped drop-spouts, which has been the constant practice for the last 21 years, there has of late been an immense extension of ventilation by means of the Archimedean Screw Ventilator. Of these ventilators 1,030 have been erected and are now at work throughout the Borough.

High chimneys, furnaces, &c., in the line of sewers, are also connected with the sewers.

The utilization of the Sewage of one outlet is being experimented with by a Company.

The Test Works consist of a pumping station at Sandhills, with an engine capable of lifting 500,000 gallons 125 feet high in 24 hours; of about 9 miles of cast iron piping, 9 inches in diameter, extending from the station northwards to the Blundell Estate. The 9-inch pipe is provided with proper connections for delivering the sewage along its course. It terminates in a distributary pipe, carried through a piece of land containing 43 acres 1 rood $33\frac{3}{4}$ perches, which has been taken on a lease by the Company.

SCAVENGERING.—Report of the Superintendent of the Scavenging Department for 1867.—

The general scavenging, and the cleansing of middens and ashpits and everything connected therewith, was effected during 1867 at an actual gross expenditure of £65,010. The average strength of the staff employed on the scavenging day and night service has been—

	Day.	Night.	Total.
Inspectors	14	8	22
Trough Closets and Urinal Men	39	...	39
Scavengers	438	...	438
Night Men		106	106
Ashpit Men	40	...	40
Carters	77	80	157
Stable and Wharf Men.....	30	20	50
Total Men.....	638	214	853
Horses	80	80	160

As regards the results of the work done by the scavenging staff, in the cleansing and emptying of middens and ashpits, the sweeping of the streets, attention to urinals and trough water-closets, and the removal of all nightsoil, ashes, and scavenging products, they are represented by the following statement:—

Number of tons removed.

	Daily.	Weekly.	Total for the Year
Night service, contents of middens and ashpits...	446	2669	138,777
Day service, street sweepings, etc.	328	1963	102,065
	774	4632	240,842

I was also favoured with copies of the admirable reports of Dr. Trench, the Medical Officer of Health, from which I have extracted the following statements, which will show how vigorously Sanitation is carried in Liverpool.

The death rate of the Borough of Liverpool in 1868 was equal to 29.1 per 1,000 of the estimated population.

The average death rate of the Borough during the previous 10 years, (1858 to 1867,) was 32.2 per 1,000, or 3.1 per 1,000 more than in 1868. This is equiva-

lent to a decrease of 1,552 in the number of deaths relatively to the population, or in other words, it may be regarded as a saving of 1,552 human lives, when compared with the mortality of the previous decennial period.

The Registrar General's weekly reports enable us to compare the mortality of Liverpool with thirteen of the large Towns of Great Britain, but though such comparisons are desirable as incentives to sanitary improvements, they will lead to very fallacious conclusions if at the same time due weight be not given to the moral, physical, and economical conditions of the inhabitants. The amount of pauperism, of Irish immigration, and of unskilled labour in Liverpool, is far greater than in any other Town in the Kingdom, and no zeal in sanitary legislation can succeed in placing an indigent population in the favourable conditions of health, attainable by Towns whose labourers have constant work and are in receipt of remunerative wages; the density of population is also a physical condition which ought to be duly considered in every comparison of the results of sanitary work, and as this can be shewn directly, it has been included in two of the columns of the following table.

	Est. Popu- lation in the middle of the Year 1868.	Births in 52 weeks, end- ing Dec. 26, 1868.	Deaths in 52 weeks, end- ing Dec. 26, 1868.	Annual rate to 1000 of Population.		Area in Aeres.	Popula- tion on Acre.
				Births.	Deaths.		
London	3,126,635	113,239	73,279	36.2	23.4	77,997	40.0
Bristol	167,487	6,057	3,800	36.1	22.7	4,674	35.8
Birmingham	352,296	12,689	8,394	36.0	23.8	7,831	45.0
Manchester	366,835	13,793	11,742	37.6	32.0	4,069	90.1
Salford	117,162	4,629	3,592	39.5	30.7	5,009	23.4
Sheffield	232,362	9,103	6,188	39.1	26.6	22,830	10.2
Bradford	134,000	4,931	3,537	36.7	26.4	6,590	20.3
Leeds	246,851	10,190	6,725	41.2	27.3	19,221	12.8
Newcastle on Tyne	127,701	4,860	3,232	38.0	25.3	5,336	23.9
Hull	122,628	4,243	2,984	34.6	24.3	3,621	33.8
Edinburgh	177,039	6,601	4,736	37.3	26.7	4,191	42.2
Glasgow	449,868	18,439	13,680	40.9	30.4	5,691	77.7
Liverpool	500,676	19,341	14,583	38.6	29.1	5,210	96.1

There are 2 disinfecting establishments in Liverpool where clothes and bedding are gratuitously disinfected; the number of articles sent to them during 1867 amounted to 16,639.

Slaughter house return of cattle killed in the Borough:—

Beasts.	Sheep.	Lambs.	Calves.	Pigs.	Goats.
49,331.	281,015.	20,889.	13,681.	32,474.	41.

Unwholesome meat condemned during 1868:—

Beef. lbs.	Veal. lbs.	Mutton. lbs.	Lamb. lbs.	Pork. lbs.	Poultry. head.	Rabbits. head.	Fish. lbs.	Shell-fish. bags.	Oysters. number.
80,927.	21,551.	14,466.	706.	5,385.	1,360.	1,639.	375,626.	384.	22,100.

Inspector of Nuisances' reports during 1868 :—

Complaints of nuisances made by inhabitants	1,953
Total number of nuisances reported by district Officers ...	40,601
Total nuisance notices	27,799
Number of informations	818
Number fined ..	165
Number withdrawn and acquitted..	623
Magistrates' order.....	29

Fever in houses :—

1,283 Street houses examined, contained 2,172 cases of Fever.

667 Court " " " 1,216 "

76 Cellars " " " 80 "

Total number of cellars inspected, 66,284.

Proceedings :—

Number of cellar notices	3,068
" " informations	361
" " fines	251
" " " acquitted and withdrawn	103

House to house visitation during 1868 :—

Total number of houses examined 131,101

Notices to white-wash houses..... 27,603

Fines inflicted for 1868 :—

Nuisances	£87	18	2
Diseased meat and slaughter houses ...	£17	2	0
Cellars	£26	3	6
White-washing	£31	2	6

Total £162 6 2

PRESTON.

The following Statement is compiled from information kindly given me by R. ASCROFT, Esq., Town Clerk, and by E. GARLICK, Esq., Borough Engineer, and from extracts from the Municipal Corporations' Directory.

The Town is situated on the banks of the river Ribble. It is connected by Railways with all parts of England, and with the coast towns and manufacturing districts of Lancashire, and Yorkshire by the navigable river Ribble and the Lancaster Canal.

The chief trade is the manufacture of cotton fabrics; there are also iron foundries and machine works, and a small amount of shipping trade. Population is estimated at 97,000 persons, who reside in 17,241 houses. Its rateable value is £210,000: the area of the Borough is 2,819 acres.

Main drainage works have been executed at a cost of about £50,000. The main sewers extend for 25 miles, and there are 30 miles of sewers connected with them, paid for by owners. The large main sewers are brick and circular in shape, and the smaller ones brick, but eggshaped. These brick sewers extend for 8½ miles, the remainder are made by stoneware pipes.

The sewers are ventilated through charcoal boxes and gratings into the street, and also through the down spouts, and are flushed by water laid on direct from the mains. All the houses are furnished with water-closets, and these are fitted with syphon traps. The house connections are 6in. and upwards: there are no cesspools known to exist: the sewers at present discharge into the river Ribble.

The present water supply is obtained from the Cowley brook, and streams in the south side of Longridge Fell (about 18 miles from Preston), which streams flow into the river Ribble above Preston. This water is conducted to the Spade Mill reservoir, which is capable of holding 110,000,000 gallons. Another source of supply is the Loud brook, which flows into the river Hodder, and thence into the Ribble. The water from this brook is conveyed to Alston reservoir by a conduit 4ft. diameter.

Alston reservoir is capable of containing 78,755,161 gallons; so that the total supply is 188,755,161 gallons.

The gathering grounds of these two sources of supply contain about 2,777 acres.

This supply has become inadequate for the requirements of the Town, as the demand for water in the Town and suburbs has gone on rapidly increasing; the demand for manufacturing purposes having more than doubled during the past 10 years. From these causes the Town has been short of water in the summer months; and for the scarcity of water and fear of running short for the domestic supply, the sewers in the Town have not been flushed, and the streets have been only partially watered, thereby causing great annoyance and damage from dust; and the dirty crowded courts and unhealthy portions of the oldest parts of the Town could not be cleared so effectually for want of water.

The quality of the Loud water is also very much complained of, so that the Corporation are about to expend £65,000 in procuring water from the valleys of the Langden and Handen brooks which are on the millstone grit, and where water of the purest quality is to be obtained.

The present supply is intended to be constant, and all houses are connected direct with the mains.

BLACKBURN.

The following Statement is compiled from information kindly given by F. SMITH, Esq., Borough Surveyor, and by MR. WHITEHEAD, the Secretary of the Waterworks, and also from extracts from the Municipal Corporations' Directory.

Blackburn derives its name from the black colour of a rivulet which runs through the Town. It has ample railway communication with all parts of the country; and by means of the Leeds and Liverpool canal, with the ports of the eastern and western coasts.

The population is estimated to be about 80,000 persons, who live in 15,300 houses: the gross estimated rental is £225,000: the rateable value £182,000: and the area of Borough 3,681 statute acres.

The rates for highways and sewerage are 3s. 1d. in the pound; the poor rates are 3s. in the pound.

Main drainage works have been executed at a cost of £90,000.

There are 32 miles of sewers in main streets, and 19 miles of subsidiary mains. Of these, about 10 miles are composed of brick, eggshaped, and varying in size from 6ft. by 4ft. 8in., to 2ft. 6in. by 1ft. 8in. The rest are glazed earthenware socket pointed pipes, varying in size from 21in. to 9in. diameter.

Ventilation is effected through trays containing charcoal and placed at the end of each sewer.

The down spouts are connected direct with the sewers, with which also a few large chimneys are connected, and at the higher levels of the Town small shafts terminating in an Archimedean Screw at the top have been affixed to buildings. Special flushing arrangements are not considered necessary, as all the sewers have a good fall.

About 14,000 houses are drained with 9in., 6in., and 4in. glazed earthenware socket jointed pipes, which are all properly trapped, and connected with slopstone pipes, down spouts, and cesspools.

There are only 740 water-closets in Blackburn, and about 13,500 privies, and 6,700 cesspools, which latter are drained and kept dry; as a general rule there are 2 privies to each middenstead.

The present system adopted at the outfall is to let the sewage run through tanks, where the solid matter is retained, and the liquid runs into the river.

THE WATERWORKS at Blackburn are in the hands of a private company. The water is drawn from streams, and from the rainfall collected over a large gathering ground. This is conducted into open reservoirs, which in the aggregate are capable of holding 454 million gallons. The lowest reservoir is about a mile from the Town, and about 220ft. above it. The water is brought in through an iron main 18in. diameter.

About 16,800 houses, in which from 75,000 to 80,000 people live are supplied with water, which is laid on day and night direct from the service pipe.

The water-closets are fitted with eisterns and ball taps; but MESSRS. GUEST & CHRIMES' bib taps are used for house service.

The daily supply averages 1,400,000 gallons—a quantity equal to about 18 gallons per head. For domestic supply the charge is 6 per cent on assessment to poor rate.

MANCHESTER.

The following Statement has been copied almost verbatim from a report by SIR JOSEPH HERON, Town Clerk, with which I have been favoured by J. G. LYNDE, Esq., Borough Surveyor. I have also incorporated an extract from DR. LITTLE'S very valuable report, and from the Municipal Corporations' Directory.

There are about 250 cotton manufactories in the Town and Parish, some on scales of enormous magnitude for spinning, weaving, and printing, besides which there are bleach works, silk mills, and manufactories of every description of animal and vegetable fibre.

The City of Manchester comprises within the Municipal boundary the townships of Manchester, Cheetham, Hulme, Chorlton upon Medlock, Ardwick, and Beswick, containing a total area of 4,203 acres.

The population at census of 1861 was 338,722; it is now (1869) estimated at 370,000; the estimated number of inhabited houses is 73,000; the rateable value of the City amounts to £1,471,331 16s.

Sewage works have been constructed at a cost of about £340,000.

There are about 280 miles of main sewers in the City, and the area sewered is 3,235 acres. The main outfall sewers, varying in size from 6ft. by 3ft. to 3ft. by 2ft., are principally constructed of brick-work. The smallest sewers are glazed earthenware oval pipes, varying from 25in. by 18in. to 12in. by 9in. The inclinations generally are very good, varying from 1 in 30 to 1 in 300.

Nearly all the main sewers have such rapid falls that they do not require flushing; in special cases water is used from the nearest main. The only method of ventilation of the sewers adopted is through the down spouts of the houses and the street grids which are untrapped. There are about 67,000 dwelling houses within the City, and it is estimated that there are only about 10,000 water-closets within the City, but there are about 3,800 privies with ashpits connected therewith: the Corporation does not permit any water to be thrown into these middens, which are systematically cleaned out by the Corporation at a cost per year of £17,668 10s. 4d., including carriage of manure to farmers, when about 130,987 tons are removed.

The sewers discharge into the rivers Irwell, Irk, and the Medlock, which are in fact only open cesspools, as they receive the refuse from the works on their banks, consisting chiefly of dye works, bleach works, paper mills, chemical works, bone works, tanneries, India rubber works, and slaughter houses.

THE WATER SUPPLY is under the Corporation and is obtained from reservoirs made by damming up the river Etherow and its tributaries 18 miles distant from Manchester; the area of gathering ground is 18,900 statute acres, and the area of reservoirs is 601 acres, which hold about 4,582,000 gallons.

From these reservoirs the water is brought by mains to service reservoirs at Godley, Denton, and Prestwick, and from them the higher levels are supplied.

There is also a well sunk in the red sandstone rock at Gorton, about 5 miles from the City. This well is 12ft. in diameter and 210ft. deep, and the water is lifted by a Cornish engine into a reservoir capable of holding 223,000,000 gallons, and covering 57 acres. The maximum yield of this well was at the rate 750,000 gallons per day, which supply the lower levels. The area of district supplied equals 81 square miles, and on it are 108,419 houses, which are supplied for domestic purposes, and 9,416 works for trading purposes. The supply is constant, and a daily average of $13\frac{1}{2}$ million gallons is supplied for domestic and trade purposes; 846,000 gallons are supplied per week during $4\frac{1}{2}$ months of the year for watering the streets and for flushing purposes. Water for drinking is supplied to the houses direct from the mains, but for water-closets into cisterns.

The water-works have already cost about £1,780,000.

Copy of analysis by DR. ANGUS SMITH, of water supplied to Manchester:—

	In Grains.
Sulphate of lime	1.743
Sulphate of magnesia .....	.661
Chloride of magnesia .....	.555
Chloride of Sodium .....	.499
Iron, per oxide of .....	.145
Organic matter .....	.840
<hr/>	
Total residue	4.515
Nitrates	none
Hardness	2°.

The death rate per 1,000 from 1857 to 1867 was

1857	31.7	per 1,000 of population.
1858	32.5	" "
1859	29.1	" "
1860	28.0	" "
1861	30.0	" "
1862	30.3	" "
1863	32.6	" "
1864	30.6	" "
1865	35.5	" "
1866	34.6	" "

The high death rate in Manchester is largely due to the excessive mortality in the infant population; nearly one half of all the deaths occurring in children under the age of 5 years.

The mortality at all ages is however abnormally great; consumption and the diseases of the lungs generally, especially bronchitis, are relatively to the population more fatal than in any other locality in England. This is probably due to a considerable extent to the constant irritation produced in the air passages by the dense smoke with which the atmosphere is constantly loaded. Zymotic diseases, including autumnal diarrhoea also largely swell the death rate.

BRADFORD.

The following Statement has been compiled from information given me by the Local Authorities; extracts have also been made from the Municipal Corporations' Directory.

Bradford is a manufacturing Town in Yorkshire, and has railway communication with the principal Towns in the Kingdom, and by means of a canal, has water communication with the Mersey and western coast, and the Humber and eastern coast of England.

The principal trade consists in the manufacture of woollen goods; and in the neighbourhood are extensive iron and coal mines, and several large iron foundries, dye works, soap, grease, and gas works.

Population by estimate, 1869, 138,000; inhabited houses by estimate, 1869, 29,280; rateable value, £504,192; gross estimated rental, £603,314; area of Borough, 6,508 acres.

£89,637 have been expended in works of main drainage; 21½ miles of main sewers have been already completed, and the work is still going on.

The brick sewers are eggshaped, from 15in. by 12in.: the smaller sewers are glazed earthenware pipes, from 8in. to 6in. Ventilation is effected through the rain-water pipes; there are also vertical pipes from the sewers, carried up to chimney stacks.

There are about 2,000 water-closets, and a large number of middens: the house connections are stoneware pipes, varying in size from 4in. to 9in.

The sewage at present is discharged into a Beck, which is a tributary of the river Aire, which it joins about 2 miles below at Shipley: this Beck has obtained an unenviable notoriety in Yorkshire from its excessive pollution, from, not only the sewage, but from the refuse cast into it from the various manufactories in the neighbourhood.

The annual rate of mortality has been reduced from 28 to 25 per 1,000.

THE WATER SUPPLY is derived from various streams. The area of the gathering ground from which the water is brought is 21,000 acres, yielding from 10 to 12 million gallons per day for Town use, and about the same quantity as compensation water. It is stored in 11 reservoirs, occupying an aggregate area of 315 acres: other reservoirs and works are in progress. The supply is constant; and the house connections are direct from the mains. The annual rainfall is about 36in.

LEEDS.

The following Statement is compiled from various reports by Local Authorities, and from DR. ROBINSON'S report on the Sanitary Condition of Leeds, in 1867, and from a report on the best mode of obtaining an additional water supply by E. FILLITER, Esq., kindly given to me by the Author; extracts have been also made from the Municipal Corporations' Directory.

The Town of Leeds is an important city in Yorkshire; it has railway communication with all parts of the Kingdom, and has water communication with Bradford, Liverpool, and other places, by means of the river Aire, the Aire navigation, and the Leeds and Liverpool canal.

The woollen manufactures of Leeds are very extensive; in addition to which, the working of iron is being rapidly developed; and there exists also numerous dye works, tanneries, chemical works, beside factories for a great variety of purposes.

The area of the Borough, comprising 12 townships, covers about 34 square miles. The population within the limits of the Borough is (1869) estimated to amount to about 250,000 persons: the rateable value is £678,514.

Main drainage works have been executed at a cost of about £180,000. There are about 100 miles of main sewers: the smaller ones consist of glazed

earthenware pipes 12in. diameter, and the larger ones are eggshaped brick sewers, varying in size from 2ft. 6in. by 1ft. 9in. to 7ft. 9in. by 8ft. at the outfall.

There are about 47,000 houses, but only 7,000 water-closets: there are about 12,000 middensteads or ash privies, about 1,000 of which are situated under dwellings. The Corporation undertakes the cleansing of these middens, at an annual gross outlay of over £7,000.

The sewers discharge their contents into the river Aire, which is still further polluted by the refuse and waste products of the various manufactories situated on its banks.

On the assumption that the population was 232,428, the death rate in 1867 was 26.9 per 1,000, during 1865 it was 30.9, and 32.3 during 1866. Out of 253 deaths from Fever, 93 instances were attended with marked sanitary defects, consisting either of defective drainage, or offensive cesspits.

Amongst the various sanitary operations carried on, the following summary exhibits some of the work accomplished during 1867:—

Cottage houses visited with a view to improve their sanitary condition.....	3,509
Houses disinfected where contagious diseases had occurred	516
Over-crowded houses partially emptied.....	147
Cellar dwellings closed.....	33
Offensive middensteads, under or immediately adjoining houses, converted into water-closets	128
Pigsties removed	125
Orders made by Magistrates	45
Miscellaneous other nuisances removed.....	4,604
Notices and letters issued	7,657

A self-acting tumbler flushing apparatus has been successfully applied to water-closets in the poorer districts, especially in cases where the privies are used by more than one family.

The scavenging of the city is performed by men employed by the Corporation, the contract system having failed; and owing to the unsatisfactory way in which the night scavenging was performed by the Contractors, the Corporation has also undertaken the cleansing of the ashpits. From April 13th to Dec. 31st, 1867, 14,991 ashpits were emptied, containing 45,307 tons of manure, at a cost of £7,487: the sale of manure, however, amounted to £4,183, which materially reduces the gross cost.

MR. FILLITER'S REPORT.—

The present supply of water is derived chiefly from the river Wharfe, at Arthington, and partly from the small gathering ground about the Eeup reservoir with certain springs near thereto. Altogether there is a total available quantity in a dry year of somewhat under 7 millions of gallons per day, and in an ordinary year of somewhat over 7 millions of gallons per day.

The source of present supply is open to suspicion of contamination by the sewerage of Otley, Burley, Ilkley, and Addingham, and the refuse of the paper, worsted, and other mills, and works on the Wharfe and its branches, above the point at which the water is pumped.

The conclusions arrived at in the report are thus summarized:—That the new source should be one capable of affording a supply of about 20 millions of gallons per day.—

That the hardness of the water should not exceed if possible 4 or 5 degrees.—

That the river Washburn is capable of affording this quantity and quality of water chiefly by gravitation, but assisted in dry weather by pumping from the foot of the Washburn; the water for this purpose being conveyed by pipes, laid thence to the present works at Arthington.—

That the cost would be about £317,000; other suggestions are made, but the one above has been adopted, and is in course of construction.

The use of eisterns in water-closets is compulsory; and MESSRS. GUEST & CHRIMES' fittings are recommended.

PENRITH.

A small Town situated in Cumberland. Its population amounts to 7,948 persons who live in 1,721 houses: the gross estimated rental of the district amounts to £37,249.

Main drainage works have been executed, at a cost of about £5,000. The sewers consist of stoneware pipes, varying in size from 6in. to 15in. They are ventilated chiefly through the rain-water pipes; and are flushed partly from the water mains, and partly from the Beek, which runs through the Town.

THE WATER SUPPLY is derived from the river Eamont, the overflow of the Ulleswater Lake, from whence it is pumped into a reservoir, and brought into the Town.

The sewage is applied to meadow land. This meadow is situated between the rivers Eamont and Louthier just above their confluence; and the sewage is conveyed through an iron main under the river Eamont, and flows through open stoneware carriers on a raised embankment, and is distributed through open trenches to such parts of the meadows as may be desired.

At its outfall into the main carrier it is received into a small tank, where, by a simple arrangement, it is made to mix with carbolic acid.

The use of carbolic acid is strongly advised by the lessee of the meadow, MR. MAC DOUGALL, the inventor of MAC DOUGALL'S carbolic acid disinfectant. He states that by its use, flies are driven away; and that this is a matter of some importance, as the meadow to which the sewage is applied is immediately in front of, and distant about a quarter of a mile from a gentleman's house. The grass of the meadow is grazed by cattle, who thrive very well on it.

The effluent water passes off into the 2 rivers. No complaints have arisen from the owners of property on either side.

CARLISLE.

The following Statement has been drawn up from information supplied, and copied from a report written by EDWARD MORLEY, Esq., City Surveyor: and extracts have also been made from the Municipal Corporations' Directory.

The City of Carlisle is placed on a slight eminence at the confluence of the Rivers Eden, Caldew, and Peteril.

The principal trade consists in the manufacture of woollens, coarse linen cloth, calico printing, and cotton piece goods; there are also iron foundries, breweries, and tan yards.

Population, 1861, 29,417, estimated 1869, 31,000; inhabited houses, 5,140; estimated number of electors, 4,000; burgesses, 3,500; rateable value, £88,000; area of borough, 1,525 acres; municipal income, £27,000. Main drainage works were executed in 1853—1855 at a cost of £23,000.

About 20 miles of main sewers have been constructed, consisting of brick sewers, iron and earthenware pipes, varying in size from 3ft. 9in. by 2ft. 6in., down to 9in. diameter. They are ventilated by connections made with tall chimneys, and through charecoal ventilators into the streets, and through the down spouts, and are flushed by water from the streams, and by chambers especially constructed for the purpose. Every house in the Town is connected with the sewers, by circular 9in. or 6in. diameter pipes: no cesspools are allowed: the sewage is partly utilized in irrigating the land, and is partly delivered into the river Eden.

The scavengering is performed by the Board's own workmen, though the horses used are supplied by a Contractor: the annual cost of scavengering is £855.

SEWAGE IRRIGATION WORKS.—The site of these works is situated about $\frac{5}{8}$ of a mile from the market-place, in a north-easterly direction from the City, and is surrounded on three sides by the rivers Eden and Caldew, and on the fourth side by the North British and Caledonian Railways.

These works were designed and constructed by Mr. H. W. McKIE, in the year 1860, at that time City Surveyor, on behalf of Mr. A. McDougall, of Manchester, who leased the whole of the sewage of Carlisle for a term of 15 years, for the nominal rent of £5 a year.

The total population is about 31,000; but the whole of the sewage is not at present used for irrigation, owing to 1 district containing 9,500 inhabitants delivering its sewage into the main outlet sewer below the site of the engine works.

A 4-horse power engine, working one of Gwynne's centrifugal pumps, lifts the sewage from a well in connection with the main outlet sewer, to the height of about 12ft. and delivers it into an open trench, constructed along the side of the river embankment, with an inclination of 1in. in 1,100: the sewage is then distributed where required by means of moveable iron troughs, 12in. by 8in. Previous to pumping, the sewage is deodorized by lime water and carbolic acid, in the proportion of 1 gallon of the fluid to 40,000 gallons of sewage, at a cost of about £25 per annum.

The sewage is distributed over the whole of the lands, in extent about 110 acres, about 4 times a year. The subsoil of the land is sandy and very porous, allowing water freely to percolate, and is laid down in ordinary pasture, and is entirely grazed.

Mr. McDougall has sublet the whole to an extensive sheep farmer and butcher in the Town. The cost per acre is about £10 per annum, including all working expenses: the value of the land previous to irrigating was about £4 per acre, and is now let at £8 per acre.

The natural grasses have not been made any coarser through the irrigation works, but have increased in firmness and quality; and the sheep and cattle eat it readily.

It has been stated that the patients in the Lunatic Asylum have been made ill from this irrigation, but it is altogether a mistake.

The meadows immediately adjoining the Asylum were being irrigated in a very crude manner by the sewage from the Asylum; and the medical officer stated that the patients were afflicted when the wind blew over the Asylum meadows in a certain direction.

The distance between the Town irrigation meadows and the Asylum is 3 miles as the crow flies; and the whole of the Town lies between, at a distance of only $\frac{1}{2}$ a mile from the works; and if there had been any truth in the assertion, it is natural to suppose that the inhabitants of the City would have suffered.

In Mr. McDougall's lease, a clause is inserted "That should any nuisance arise, the Corporation shall be at liberty to break the lease without any compensation;" but up to this time there has not been a single complaint, although the site of the works is surrounded by the castle and several villas.

WATER SUPPLY is obtained from the river Eden, from whence it passes through an open filter, which has been constructed on—what I am informed is termed—the Scotch plan: this plan is not approved of, and they are now altering it to the usual English one.

The engine house is situated on a slight eminence, at about 1,400 yards from the river Eden. The water is pumped from here to a reservoir, a distance of

about 2,200 yards: this is capable of holding about $2\frac{1}{2}$ millions of gallons. It is about a mile from the centre of the Town, and its top water level is 41ft. above the highest part of the Town, and 84ft. above the lowest part of the Town: the service is constant, and no cisterns are permitted, the house service being laid on direct from the mains.

The above structural works were performed with money borrowed in loans; principal and interest to be repaid in 30 years.

HEXHAM.

The following information has been for the most part kindly supplied me by WILLIAM ROBB, ESQ., Chairman of the Public Health Committee.

Hexham is a small Town in Northumberland, situated on an eminence rising in the valley of the Tyne.

The population according to the census of 1861 was 5,270, and it is estimated that there has been no great increase since; inhabited houses amount to 525; gross estimated rental, about £21,000; rateable value, £18,496 15s.; main drainage works have been executed at a cost of nearly £5,000.

They extend over a length of 4 miles, and consist of glazed earthenware pipes, varying in size from 18in. to 9in. Flushing is effected from hoses attached to the street hydrants, and ventilating shafts open into the streets protected with charcoal trays. Every house is connected with the sewers; but there are only 230 water-closets in the Town. No cesspools exist, but there are a few middens which are however kept dry; at the outfall there is a brick elliptical formed sewer of about 200 yards long; through this the whole of the sewage flows into depositing tanks, which are in duplicate, where the solid matter is partially deposited and from which the sewage flows into the river Tyne.

These depositing tanks are periodically cleaned out and the contents mixed with Town street refuse and sold to farmers at about 1/- per ton.

The water supply of Hexham is gathered from a reservoir on the side of the hill above the Town, where an embankment has been thrown across a valley into which spring water flows. The reservoir which is open, is capable of holding 20 million gallons of water.

The water is conveyed through an iron main 12in. in diameter into the Town, and distributed through mains varying from 12in. in size to 3in. in diameter:

The supply is constant and nearly every house is supplied direct from the mains,—no cisterns are allowed.

The scavenging of the Town is done by the Board.

The permanent works were performed out of monies borrowed, repayable for the most part in 30 years, at $6\frac{1}{2}$ per cent per annum, meeting both principal and interest. The remainder was borrowed at 5 per cent on debenture.

Since these works of water and sewerage were finished in 1865 the death rate has been reduced from 27 per 1,000 to 22 per 1,000.

SUNDERLAND.

The following statements has been compiled from information given me by WM. SNOWBALL, ESQ., Town Clerk of Sunderland. Extracts have also been made from the Municipal Corporations' Directory.

Sunderland is an important Town in the county of Durham, and is situated on sloping ground abutting the sea, or the south bank of the river Wear.

Sunderland and Newcastle are the two largest coal shipping ports of the United Kingdom, and besides the immenso ship building docks of the former,

(second only to Liverpool for the number of ships of small burthen annually launched,) it enjoys an immense export trade in glass, rope, chains, anchors, and other ironwork, earthenware, etc., etc.

The population is estimated at 85,000, who live in about 10,000 houses: the gross estimated rental is £300,000, and the rateable value, £250,000, and the area of the Borough is 2,768 acres.

Main drainage works have been executed at a cost of £163,000.

The sewers are made of brick and earthenware pipes: the brick ones are eggshaped and vary in size from 4ft. by 2ft. 8in. to 2ft. 10in. by 1ft. 10in., and the pipes from 18in. to 9in. The sewers extend over about 80 miles and their contents are discharged into the river and into the sea; they are ventilated through connections with the factory chimneys, and are flushed with water taken from the mains.

THE WATER SUPPLY is into the hands of a private Company who have extensive works at Humbleton-Hill, Pulwell, Cleadon, and Ryehope. At these places the water is raised from artesian wells, sunk and bored into the limestone rock, and it is stated that the storage capacity of the several reservoirs equals $8\frac{1}{2}$ millions of gallons; the daily supply which is on the constant system equals $3\frac{1}{2}$ to 4 millions of gallons. Houses are supplied direct from the mains; about 3,000 water-closets are supplied, and each one must be fitted with double valve cisterns. MESSRS. GUEST & CHRIMES', and LAMBERT'S fittings are used.

Not only Sunderland but South Shields and Jarrow are supplied by this Company.

ALNWICK.

This statement is made from information kindly given me by R. ELLIOT, Esq., the Town Surveyor.

Population of District about 7,000.
of Town about 6,000.

The whole Town is sewered with glazed earthenware pipes, varying in size from 18in., 15in., 12in., 9in. to 6in. pipes. The main sewers is laid on a gradient of 1in. in 400in. and discharges into the river Alne about $1\frac{1}{2}$ miles below the Town. The street mains generally have a good fall; there are two flushing chambers, and the sewers are flushed once a fortnight from hydrants. Ventilation is chiefly effected by rain water down pipes which are carried above the windows. There are about 1,000 water-closets connected with the sewers; these are all fitted with a syphon trap: there are also about 1,500 trapped sinks. The house connections are 6in. pipes.

The sewers carry off about half the rainfall, the other half is taken in at storm gullies and carried in conduits to the river.

THE WATER SUPPLY is obtained from various springs, the farthest of which is $2\frac{1}{2}$ miles from the storage reservoir, to which the water is conveyed through glazed earthenware pipes. Before it reaches the reservoir however the water passes through a filter made of the usual form and composed of broken stones, gravel, and sand which are $4\frac{1}{2}$ ft. deep in the aggregate. The storage reservoir is about $\frac{1}{4}$ of a mile above the Town, is covered, and capable of holding about 220,000 gallons when full. It stands on a considerably higher level than any part of the Town, and would give a mean head of 150ft.

The supply is generally constant, but in seasons of long draught it is necessary to cut it off for a few hours during the day.

It is distributed through iron mains of the following sizes:—9in., 6in., 4in., 3in., and 2in.; there are however very few 2in. pipes as they are considered to be

too small. The house supply both for water-closets and other purposes come direct from the mains. MESSRS. GUEST & CHRIMES' taps and fittings are used.

The iron mains were coated inside and outside with DR. SMITH'S solution, and after 15 years there is not the slightest corrosion; the branches are galvanized iron.

BERWICK ON TWEED.

The following Statement is compiled from information supplied to me by JAMES WEDDELL, Esq., Clerk to the Local Board, and from extracts from the Municipal Corporations' Directory.

A seaport Town, carrying on a considerable coasting trade with London, Edinburgh, Newcastle, Hull, etc., by means of steamers and sailing vessels. The chief exports are fish, corn, whisky, and coal: the chief imports—iron, timber, flax, hemp, and tallow. There are extensive iron works for constructing steam engines and mill castings, and slips for the repairs of vessels.

Population of the Borough, 13,303. The Borough includes the adjoining townships of Tweedmouth and Spital; but these townships have not been drained or supplied with water by the Local Board of Health. The population of the Town of Berwick, which has been drained and supplied with water 8,571. Gross estimated rental of that part of the Borough assessable to special district rate drained and supplied with water, £18,500; rateable value, £16,500.

The main drainage carries off both the storm water and the sewage, and has its outfall into the river Tweed.

The main drains are brick, circular, sewers varying from 2ft. 6in. at outfall, to 18in. at the upper levels, and extend over a length of 6,353 yards: the subsidiary drains are glazed earthenware pipes, varying in size from 15in. down to 9in.

Ventilation is effected by shafts (metal pipes) which are carried to the tops of houses, where there are blank gable ends; and also through the down spouts and manholes.

The sewers are flushed by metal pipes connected with the water mains, let into special flushing chambers, and at the dead ends of sewers. There are no cesspools in the Town; and there are 693 water-closets, which are all syphon trapped, size of soil pipe, 6in., pipe from sinks and kitchen, 4in.

The scavenging of the Town is performed under the direction of the Local Board of Health, who have their own plant, and employ the requisite number of labourers.

The drainage works were executed at a cost of £6,182 15s. 11d.

The average annual mortality rate per 1,000, during the 10 years prior to the completion of works of sewerage and water supply—25.3 per 1,000,

During the subsequent 8 years—23 „

WATER SUPPLY is obtained from a reservoir, formed by an embankment thrown across a valley, about 3 miles from the Town: this reservoir covers about 5 acres, and is calculated to hold 8,500,000 gallons. From this reservoir the water gravitates to a service reservoir, which is about 300ft. above the lowest part of the Town, and holds 250,552 gallons of water; from thence it is conveyed by a 12in. pipe into the Town.

Unfortunately, several years after construction, the service reservoir has been found to leak, and the towns-people are put in dry weather to the very greatest inconvenience: the supply which was calculated to yield about 30 gallons a head to each individual, has dwindled down in dry weather to only 36,000 gallons during the day, or a little more than 4 gallons per head. During August, 1869, the average supply was 51,000 gallons per day.

Of course under these circumstances the supply is necessarily intermittent.

The Waterworks cost £8,218 1s. 5d.

EDINBURGH.

The following Statement is compiled from extracts copied from the extremely valuable reports of CHARLES MACPHERSON, Esq., Borough Engineer, and of DR. LITTLEJOHN, F.R.C.S.E., Medical Officer of Health for the City.

The greater part of the City of Edinburgh is built on the slopes of 3 ridges, lying nearly east and west, and parallel to each other: the High Street and Canongate being on the centre ridge, George Street on the northern, and Heriot's Hospital on the southern.

The drainage of the City is naturally to the Firth of Forth by three main outlets, namely,—

- 1.—The Craigentenny Burn draining the area which includes the slopes on each side of the centre ridge and opposite slopes.
- 2.—The water of Leith draining the area which includes the slope northward of the north ridge; and
- 3.—The Jordan or Powburn, which receives the drainage of the slope southward of the south ridge.

Between the years 1778 and 1825, about $19\frac{1}{2}$ miles of sewers were constructed, at a cost of about £69,000.

The size of the sewers then laid down is generally 5ft. 6in. by 3ft. The branch drains for collecting the refuse from kitchen sinks, water-closets, etc., were generally imperfectly constructed with rubble stones, side walls and pavement sills, and covers. In the course of the branch drain a built cesspool was invariably formed, the evil arising from which, has been forcibly pointed out by DR. LITTLEJOHN, and the substitution of syphon traps recommended.

From 1825 to 1853 little seems to have been done in regard to sewerage; but since 1853 about 20 miles of sewers have been constructed, of which, above 5 miles are built sewers, above 3 miles are pipe sewers above 12in. diameter, and the remainder are pipe sewers 12in. diameter or less. The cost of these works has been nearly £50,000.

Edinburgh is pre-eminent for its arrangements for the removal of solid refuse, 50,000 tons of which are annually collected and sold for manure. The inhabitants are compelled by the Police Act to bring all household refuse to the streets, and 65 carts or wagons are employed in the removal of it from the Old Town and poorer districts in the morning and evening, and from the New Town in the morning.

Eight overseers and 135 scavengers are employed under the Inspector of Cleaning in these operations. The scavenger after filling the cart, sweeps up any refuse that may have been left in the streets, and conveys it to covered dust boxes, provided in various parts of the City, which are cleaned daily.

These dust boxes are 8ft. long, by 4ft. broad, and 6ft. high to the eaves, with a sloped roof, and entrance is obtained by a door about 3ft. wide.

The cost of the whole cleaning arrangements, including implements, collection of rates, etc., etc., amounted in 1866 to £17,268; but as the manure sold for £8,072, the actual cost to the City was £9,556. The cartage of the refuse is let to a Contractor, the collection of it being the work of the scavengers.

The greater part of the dry refuse consists of that from dwelling houses, namely, ashes, vegetable matter,—such as potato peelings, cabbage leaves, etc., animal matter resulting from the cleaning of fish, fowls, etc.; and there are also the horse droppings, and other impurities collected from the streets by the scavengers.

The mud from the macadamized roads is not mixed with the manure.

Besides the ashes obtained from the poorer neighbourhoods there is some excrementitious matter. After the ashes and refuse from the streets have been taken to the wagons, the excrement from the public conveniences, of which there are 26, amounting to about 7 tons daily, is then added.

This refuse is sent out of the City by three lines of railway and by the Union Canal; or in the event of there being no demand for it at the time by any of these routes, it is taken to 2 depots, situated beyond the outskirts of the City.

APPLICATION OF SEWAGE TO IRRIGATION.—The waters of the Craighentinn Burn, the Lochrin Burn, the Jordan Burn, and the Broughton Burn, are used in irrigating about 336 acres of land adjoining them; and the following is a description of the details of the management of the meadows irrigated by the Craighentinn Burn:—

The area within the City, draining towards it, is about 1 square mile and a half in extent. From this district there flows about 20 cubic feet of spring water per minute; the surplus rainfall being the non-absorbed portion of 2 in. per annum, and the sewage from a population of 95,589 persons according to the census of 1861, with a water supply—say of 25 gallons per head. Of this population, about 60,000 have the use of water-closets, and the excrementitious matter from about 15,000 or 20,000 of the remainder, finds its way to the sewers connected with the Burn.

The sewage emerges from the sewer at Clockmill Bridge, and from this point till it reaches the sea near Portobello, a distance of fully a mile and a half it is used for the irrigation of lands adjoining the stream.

Various kinds of soil are irrigated: the subsoil of the part of the meadows nearest the City is peat with loam over it, near the course of the Burn; while to the northward it is naturally sand; but the sand has been taken away, and the ground made up with rubbish of buildings, dressed off with soil. Further down the course of the stream, the soil is reddish clay or loamy clay, or sandy clay; while at the part of the Figgate Whins adjoining the sea shore, it is pure sand, with a coating of rich loam, varying from 1 in. to 4 or 5 in. deep, entirely derived from repeated applications of the sewage, no soil having ever been spread over the sand.

The deeper soil is nearest the channels for conveying the sewage to the land. The meadows in the Farm of Loch End, at Restalrig and at Craighentinn, have a slope transversely to the course of the stream, varying from the steepest part 1 in 55, which is of small extent, to about 1 in 50, which is the slope of the greater part of the meadows. The Figgate Whins were artificially levelled to allow of irrigation.

The ground has been dressed, so as to have a regular slope transversely, from the course of the stream up to artificial channels, called feeders, about 18 in. wide by 6 or 8 in. deep, formed round the ground to be irrigated: these feeders have been formed with only fall enough to cause the sewage to flow slowly along them.

At intervals of from 30 to 45 yards, channels about 12 in. deep and 6 in. wide, are formed from the byewash to the feeder, thus disposing of the ground into panes or square plots of about $\frac{3}{4}$ of an acre each: the irrigation of these plots is a separate operation.

The sewage can be turned into the feeders as required; and the irrigation of any particular plot is effected, by stopping up the feeder where it passes the lower end of the plot, until it becomes full of sewage, then, by small notches on the top of the bank forming the feeder about 3 ft. apart the sewage is drawn off from the feeder, and overflows the ground in minute streams, the number of which may be increased or diminished at pleasure. At some places in the flat ground, the transverse channels convey the sewage down each side of the plot, and from them it is drawn off by a number of smaller channels.

The point aimed at is to have the ground so disposed that the sewage shall flow equally, if possible, over the whole surface.

The irrigation is begun in the month of February, when about a quarter of an inch in depth of sewage is allowed to flow over the ground for 24 hours. Ten days afterwards, the same quantity for 12 hours; and a third soaking is given in another 10 days, care being taken not to soil the partially grown grass by the latter operation. This is the whole process, repeated once for each crop, of which there are generally 4 per annum.

It is important to remark that the land, except the sand at Figgate Whins, has been drained thoroughly, to a depth of 4 ft. below the surface. It was found that with

shallower drains, the sewage was drawn off by the drain, leaving the lower part of the ground without irrigation. At the Figgate Whins, the sewage soaks into the sand and oozes out upon the sea shore.

The kind of grasses grown are Italian rye grass and meadow grass. The rye grass requires to be re-sown every third year; but the meadow grass has not required re-sowing, not even on the Figgate Whins, which was sown about 40 years ago, when the ground was first irrigated.

The irrigated ground is let off in small plots or squares for the season, to the highest bidder: the grass is cut by the tenants as required. An average crop is considered to be from 30 to 40 tons per acre, in 4 cuttings.

The whole grass is eaten by 3,100 cows; but after the fourth crop is cut, sheep are turned on for about a fortnight. The sheep do not seem to thrive, however, although the food is plentiful: the grass has been found most suitable for feeding cows; the attempt to use it for feeding other animals having been found not to answer, and the cost of converting it into hay being proved to be such as to render the process unprofitable.

The price paid for the plots varies considerably; the best being known to bring £40 per acre, while others are as low as £15 to £20.

The rental of the Figgate Whins previous to irrigation, was about 20s. per acre; while, when irrigated, parts have been let for some years at £40 per acre.

In no case is the whole of the sewage of any of the streams absorbed; and no irrigation is carried on from September till February, except at the Figgate Whins. During this time, the whole sewage passes to the Firth of Forth without being used.

THE WATER SUPPLY of Edinburgh is in the hands of a private company; and the water is derived from the Crawley and other springs. In 1863, the daily supply amounted to 31 gallons for each inhabitant; but it is expected that this amount will be increased to 39 gallons per head. The service is constant.

There are 49 public wells and 20 drinking fountains distributed throughout the City. An enormous waste of water is complained of, as taking place through the faulty construction of the ordinary watercocks; and the construction of the water cisterns, and their connection with the drains is also complained of.

The City has been divided into 19 sanitary districts,—7 of which constitute the New Town; 9 the Old Town; and 3 form the Southern Suburbs.

The district of Landward, although not within the Municipal boundary of the City, has been included in the reports of the Registrar General under that of Edinburgh.

In the table below are given the population of the 3 divisions, as at the census of 1861; their respective mortality during 1863; their acreage; and the density of the population.

	Population, 1861.			Mortality, 1863.			Death rate per 1,000.			Area in Imperial Acres.	Proportion of Pop. to each Acre.
	Above 5 Years.	Under 5 Years.	Total.	Above 5 years	Under 5 years	Total.	Above 5 years	Under 5 years	Total.		
New Town ...	55,084	5,519	60,603	741	368	1,109	13.27	66.67	18.3	1765.5	34.3
Old Town ...	85,187	12,901	98,088	1,618	1,397	3,015	18.99	108.29	30.73	1078.5	90.9
Southern Suburbs	8,513	917	9,430	146	46	192	17.15	50.16	20.36	1104.	8.5
Total for Parliamentary Area }	148,784	19,337	168,121	2,505	1,811	4,316	16.83	93.65	25.67	3948	42.5
Landward ...	2,130	193	2,323	85	11	96	29.9	57.	41.32	3127.	.7
Total	150,914	19,530	170,444	2,590	1,822	4,412	17.16	93.29	25.83	7075	24.1

Edinburgh has never been considered an unhealthy City. It is, however, peculiarly exposed to the ravages of epidemic diseases of all kinds, on account of its dense and badly housed population; and whether the epidemic be cholera or fever, the poorer inhabitants living in the crowded districts of the Old Town, suffer in a marked degree.

The following table shews the average death rate for the 5 years, ending in 1863, to have been only 24 per 1,000. It will be observed that the population has been calculated for each year, and that certain deductions have been made for the number of deaths, viz:—those of persons who died in the Royal Infirmary, and were belonged to Leith, or to various counties of Scotland.

By this means a correct estimate can be formed of the death rate of the City, which would otherwise be burdened with a large amount of mortality, for which it is solely indebted to the celebrity of its Hospital and Medical School.

YEAR.	Pop. within the Parliamentary Boundary.	Total deaths Registered within the Par. Boun.	Deduct deaths belonging to		Remain- ing Mor- tality.	Births.	Death rate per 1,000.	Birth rate per 1,000.	Excess of birth rate over death rate.
			Leith.	County.					
1859	166,380	3,619	23	86	3,520	5,446	21.09	32.73	11.64
1860	167,248	4,149	22	97	4,030	5,380	24.09	32.16	8.07
1861	168,121	4,077	23	108	3,946	5,694	23.47	33.87	10.4
1862	168,989	4,661	19	137	4,505	5,722	26.65	33.86	7.21
1863	169,857	4,496	31	149	4,316	6,122	25.4	36.05	10.65
Average							24.15	33.74	9.59

GLASGOW.

The following Statement is compiled from extracts from various reports, kindly given me by DR. GARDNER, the Medical Officer of Health of Glasgow; and from the report on the Vital Statistics of Glasgow, by WM. WEST WATSON, ESQ., the City Chamberlain; and from the report of MESSRS. BATEMAN & BAZALGETTE, on the Sewerage of Glasgow, and the Purification of the river Clyde.

MR WATSON'S REPORT.—

The City of Glasgow, including Gorbals, lies on both sides of the river Clyde, and the population within the Municipal boundaries is estimated to have been, in the middle of 1868, 447,000 persons; basing the calculation upon the average family ratio, which was found to exist in 1861.

Inhabited dwelling houses, 93,393, taken at 4.72—440,814
Inmates of public Institutions, barracks, and seamen in harbour, say— 8,186

Total population within Municipal boundary 447,000

Population in the suburbs 69,565

Total estimated population of the City of Glasgow, inclusive of suburbs 516,565

The births and deaths ascertained to have been registered in 1868, are represented by the following ratio.—

Births 41.63 per 1,000
Deaths 30.928 „

The following abstract shews the entire rental of Glasgow during 1868-69 :—

Houses, shops, warehouses, factories, gas, water, and other works	£1,904,092	
Railways and canals	£40,536	
		£1,944,628
Royalty beyond Borough—houses, shops, etc.	...	£30,738
Railways and canals	...	£11,580
		£1,986,946

The area of the Borough is 5,063 acres : the average number of persons to an acre, was in 1861, .78

FROM MESSRS. BATEMAN & BAZALGETTE'S REPORT.—

Compared with most English Towns, the City of Glasgow covers a small area, in proportion to its population. The land on which the City stands rises rapidly on the north bank of the river Clyde : the higher parts of the Town attaining an elevation of about 200ft. above the sea. On the south side, some low level ground occupies a narrow belt adjoining the river, from the southern margin of which, the ground rises to an elevation about 100ft. above sea level.

Several Burns,—the Camlachie Burn, the Molendinar Burn, St. Enoch's Burn, and the Pinkston Burn, together with the more important stream of the river Kelvin, cut up the sloping ground on the north side of the river, into a succession of ridges and valleys, which rather facilitate than hinder the convenient sewage of the City.

On the south side, the ground is more uniform in level no Burn or stream of any importance occurring within the area occupied by buildings.

The City itself on both sides of the river possesses great facilities of good drainage, which have been carefully and judiciously taken advantage of, and the City may be considered, therefore, as being thoroughly well drained. For the greater part, the sewers have short and rapid runs, and flow direct into the river. The extensive introduction of water-closets, together with the refuse of many distilleries and chemical works, swell the volume of the sewage beyond that of most Towns, and increase its offensiveness.

Received into the river, it stagnates and putrifies in the harbour, poisoning the air, injuring the health of the residents, acting destructively on the sheathing of vessels in the harbour, annoying all travellers by steamboat, and no doubt injuring the trade of the port.

MESSRS. BATEMAN & BAZALGETTE in their report, (from which, space will not permit me to make further extracts,) propose to intercept all the sewage of the Town and to carry it by a culvert exceeding 27 miles in length to the sea coast of Ayrshire, to be utilized in irrigating the sandy land of the coast. They estimate that not less than 8,000 or 9,000 acres would be required for this purpose, and the probable gross outlay, if this scheme were carried to completion would amount to £1,253,256.

There are at present upwards of 70 miles of main drainage in Glasgow ; the sewers are composed of brick and are egg shaped ; they vary in size from 2ft. to 5ft., and are ventilated by the rain water spouts, and through gratings and manholes. No especial arrangement have been made for flushing them.

The house connections are laid in pipes varying in size from 9in. to 12in. in diameter.

The water-closet system is not universal in Glasgow. In the report of the engineers above quoted, it is mentioned that out of the 90,000 families of which the population of Glasgow is estimated to consist, 40,000 are without water-closets.

The City has been divided by DR. GAIRDNER into 54 sanitary districts, which are under the medical inspection of six Medical Officers of Health, DR. GAIRDNER supervising the whole.

The Medical Officers of Health order tenements to be fumigated and white-washed, articles of clothing to be disinfected, bedding of fever patients to be destroyed, and replaced, closes, streets, lanes, and gutters to be flushed with water, besides inspecting tenements let in lodgings, and seeing that the terms of the law regarding over-crowding are carried out.

Sanitation is also vigorously carried out by the Improvement Committee, who are doing a vast amount of good, in pulling down and re-constructing houses in the most densely populated quarters of the Town: the over-crowding in some portions of which exceeds that of the worst parts of London.

The cleansing of the City is performed under the Board of Police of Glasgow.

The average number of men employed during the year was as follows.—

In the scavenging department—including street sweepers, cleaners of private streets and courts, broom makers, fumigators, washers, etc.	392 men.
In the manure department.....	346 „

Average Total 738 „

Horses employed 118 horses.

Total railway wagons belonging to the City 250 wagons.

The total quantity of manure collected :—

	Tons. cwt.
By night service, contents of middens and ashpits	97,237 1
„ day „ street sweepings	42,002 12
Remaining on hand	6,351 0

Total 146,590 13

During the same period the following quantities of manure have been despatched :—

	Tons. cwt.
By rail, 15,193 wagons at $6\frac{14}{20}$ per wagon	101,635 13
By canal... ..	6,878 0
By farmers in their own carts	35,420 11

143,934 4

Stock of manure on hand 2,656 9

Total 146,590 13

The total expenditure on these operations amounted to.. £41,729 3s. 6d.
But from this has to be deducted sale of manure.....£21,001 4s. 9d. }
Stock on hand—

Value of manure ... }			
implements }	£1,843 1s. 0d.	} £30,885 17s. 2d.	
hay... .. }			
Amount received for private work	£6,168 5s. 8d.	} £10,843 6s. 4d.	
Balance from general assessment	£1,873 5s. 9d.		

Leaving as the total cost to the City£10,843 6s. 4d.

The works for the supply of water to Glasgow are one of the most extraordinary instances of successful engineering on record.

In the words of MR. GALE, for whose very valuable report on the Loch Katrine works I am indebted to the Secretary of the Institute of Engineers in Scotland :—

“ In the face of doubts and distrusters freely expressed, and of unparalleled difficulties arising from the wild and rugged nature of the district through which the aqueduct passed,

the whole works, involving an outlay of upwards of £900,000, and extending over 34 miles of country, were completed in less than 4 years. It is a work which will bear comparison with the most extensive aqueducts in the World, not excluding those of ancient Rome; and it is one of which any City may well be proud."

It would be impossible in a sketch of this kind, to give even a bare outline of this gigantic work. I may, however, briefly notice from the above report that the gathering ground of the Loeh Katrine works, made by damming up Loeh Katrine, Loeh Vennaeher, and Loch Drunkie, covers about 45,800 acres.

The aqueduct from the Loehs convey the water to a service reservoir, 25 miles from Loch Katrine. This reservoir has a water surface of 60 acres, and a depth when full of 50ft., and containing 548,000,000 gallons, and is 317ft. above ordnance datum.

The water is drawn from the reservoir by pipes, and about 50 yards from it passes into a circular well cut out of the rock, 40ft. diameter and 63ft. deep, and is strained by passing through copper wire cloth, 40 meshes to the inch, arranged in oak frames, forming an inner well of octagonal shape, 25ft. diameter, and from this latter the water finally passes into 2 lines of pipes leading to the City. These 2 pipes are 42in. in diameter, and are intended to deliver the whole 50,000,000 gallons a day. They first pass through a tunnel, 440 yards long, and then diminished in size to 36in. are continued for a distance of about 7 miles to the City.

Water is also supplied to the City from the Gorbals water works, which draw their supply from the Broek Burn, a small stream having its sources near Brother Loch and Long Loch, in the south east of Renfrewshire. The surface water is collected in 4 reservoirs, and after being filtered, is supplied to the City by gravitation. The lowest reservoir is $4\frac{3}{4}$ miles from the upper sources of the stream, and about 6 miles from Glasgow.

In connection with these reservoirs, there are 2 distributing tanks, and 2 sets of filters. Each set can be worked while the other is under repair. Each set of filters is divided into 3 transverse sections, any one of which can be cleared without stopping the action of the others. The filters are upon the Lancashire principle, the sand being removed when foul, washed, and again replaced. When any filter has ceased to discharge its proper quantity of water, about 1in. of sand is removed, and a new filtering surface exposed. The sand is washed by an upward current of water in cast iron boxes.

The area of the filtering surface is 3,800 square yards; and the average quantity of water passed through is 875 gallons a square yard per 24 hours.

The 2 tanks into which the water passes from the filters are each 220ft. long, 66ft. broad, and 19ft. deep. They contain 3,250,000 gallons, and are 240ft. above ordnance datum when full.

The main pipe to the Town, 24in. in diameter, passes from these tanks, the inlets being furnished with valves, and copper wire cloth strainers. The average daily supply of water furnished by the Commissioners during 1868 was obtained thus—

From Loeh Katrine,	22,100,000	gallons.
From Gorbals's gravitation works,	3,730,000	„
	<hr/>	
Total	26,830,000	„

The domestic rate is 1s. in the pound over the whole municipality, and 1s. 1d. in the northern suburbs, together with 1d. of public rate chargeable to the owners of property within the municipality.

So abundant has the supply been, that the Commissioners have been enabled to furnish some of the neighbouring Towns, such as Renfrew, Pollokshaws, Rutherglen, etc.

In houses at the higher levels, cisterns are compulsory, but not elsewhere, except for water-closets, although many water closets are supplied direct from the mains: single valve cisterns are used for water-closets. The house taps most commonly used are the common ground cocks which cause great waste.

SWANSEA.

The following Statement has been compiled partly from extracts taken from the very valuable report of E. DAVIES, Esq., Medical Officer of Health, and from information kindly placed at my disposal by E COUSENS, Esq., the Borough Surveyor. Extracts have also been made from the Municipal Corporations' Directory.

Swansea is a Borough situated on the west side of the river Tawy, at its mouth at Swansea Bay in the Bristol Channel. The Town has communication with the South Wales and Vale of Neath Railway, and with the South Wales and Swansea Vale Railway. It has also water communication with its own and adjacent counties by means of the river Tawy, the Swansea and Neath canal, and another canal which runs up the valley for a distance of 16 miles.

The staple trade of Swansea is the smelting and refining of copper, which is brought hither for that purpose from all parts of the world. There are also iron, tinplate, zinc, patent fuel, and alkali manufactories. The exports consist of the articles manufactured here, and the imports of metallic ores, timber, tobacco, hemp, tallow, flour, grain, etc.

Population in 1861, 41,606; in 1869 estimated about 60,000; inhabited houses, 8,778; gross estimated rental, £131,375; rateable value, £123,000; area of Borough, 4,363 acres.

FROM DR. DAVIES' REPORT :—

“Previous to 1857 Swansea was without a system of drainage, at that time there was only one main sewer along the Strand which emptied itself into the river, receiving in its course the contents of the Old Town ditch, partly surface water, and partly sewage from the lower part of the Town.

The Town ditch was in fact an open sewer along a great part of its course, from 3 to 4ft. wide and in some places 5ft. deep; always stagnant, and in summer weather offensive and dangerous to the public health. The cesspool system was general, and the water supply of that part of the Town above the level of the existing reservoir which was obtained from pumps and wells, was insufficient in quantity, and in many instances of a very questionable character.

In 1857 the main drainage of the Town was commenced. There are $5\frac{1}{2}$ miles of brick sewers and 34 miles of pipe sewers.

The system of sewage adopted in Swansea differs in some respects from that of many other Towns and is believed to have advantages peculiar to itself.

The main outlet sewers constructed of brick are eggshaped in section, varying from 4ft. by 3ft. to 2ft. 3in. by 1ft. 6in., with other mains of circular glazed earthenware pipes, from 18in. to 9in. in diameter. Except in the case of cellars abutting on the sewers, houses are not drained directly into the main sewer but into subordinate sewers at the rear of the houses on both sides of the street. In this way, with the precautions immediately to be mentioned, the risk of the escape of sewer gas into the interior of houses is avoided, and the expense of private drainage is very much lessened.

The sewers are easy of access, and the drainage of back premises is not carried under the houses. Each house is connected separately with the subordinate sewer, which is finally connected with the main sewer at the end of the street.

Ventilating shafts are constructed in connection with every manhole along the course of the main sewers at an average distance of 40 yards from each other, and before the gases escape into the street they must pass through trays filled with finely broken vegetable charcoal. The result is most satisfactory, the neighbourhood of the ventilators is not offensive, and as a proof of the efficiency of the ventilation it may be mentioned, that it is at all times possible to enter the sewers

for the purpose of examination and repairs, and the effluvium is never so concentrated as to be overpoweringly offensive to the workmen.

In order still further to protect the interior of houses from danger arising from sewer gas, a double system of traps is provided; the drainage of closets and sinks within houses is not carried direct into the sewer but the pipes from these places discharge themselves into trapped gullies outside the houses, and above the point of discharge there is a communication with the water-shoot, which acts as a ventilating shaft.

The flushing of the sewers is effected in two ways:—

1st.—Where the highest point of the sewer adjoins the street and is easily accessible, the sewers are flushed by means of a hose attached to the hydrant on the water main.

2nd.—Where the sewers can only be reached through houses they are flushed by self-acting flushing chambers, which act at intervals of from 4 days to a week.

The action of the flushing chambers is shortly this,—a receptacle balanced on an eccentric axis is gradually filled with water, which, when it reaches a certain height in the receptacle representing a quantity of about 150 gallons is suddenly discharged into the sewer, the receptacle immediately returning to its place to be in course of time refilled."

The main drainage cost £47,000.

THE WATER SUPPLY is obtained from a reservoir capable of holding 300,000 gallons, formed by an embankment thrown across the valley of the Lliw river. The reservoir is situated among the hills about 9 miles away from the Town, and the river receives the rainfall of about 1,860 acres, principally common lands, and is entirely free from any possibility of sewage contamination.

The water flows through earthenware conduits, 2ft. in diameter, from the storage reservoir into the Borough and is distributed within the Borough by about 20 miles of iron pipes, varying in size from 2ft. to 2in. in diameter. About 7,000 houses are connected, and the water-closets are fitted with cisterns, but for other purposes the water is drawn direct from the mains.

The supply is on the constant system, excepting during a short time in summer when it is necessary to shut the water off for a few hours during the day.

DR. DAVIES says also—"That there is every reason to believe that the sanitary improvement of the district is really beginning to tell on the public health, and the reduced death rate of 1867. viz.,—18.1 per 1,000, against 28 of the previous year, and 24.1 of the 3 years preceeding, is an augury of better things and is an indication that Swansea is about to place herself in a position, which, from her natural position, she ought to occupy among the healthiest Towns in the Kingdom."

PORTSMOUTH.

The following Statement is compiled from information kindly supplied me by S. E. GREATORREX, Esq., Borough Engineer, and from the Secretary of the Water Company.

Portsmouth, together with Portsea Town (included in the borough) is situated on the Island of Portsca, which is 15 miles in circumference.

Population estimated at 115,000; inhabited houses, about 20,000; the area sewered covers 2,374 acres; rateable value £253,941 15s. The sewage is removed both by pumping and by gravitation. The area of the Town from which the sewage is pumped covers 740 acres: of this, half is densely populated, the remainder is suburban.

The high level sewer removes by gravitation the sewage over 1,634 acres, half of which is already, and the other half is rapidly becoming, densely built upon.

The sole of the sewers in the low level, or the area pumped, ranges from 3ft. to 4ft. below high water mark, to 6ft. and 8ft. above it. The outfall is into the sea, and is about 18in. below low water mark. The mouth of the outfall is laid 5ft. below ordnance datum.

The outfall is situated in Langston Channel, where the tide runs out about 7 knots an hour.

From the pumping area the rainfall is excluded as much as possible; but the higher level carries off both storm water and sewage.

The main sewers are eggshaped and constructed of brick; at their upper end they are 3ft. by 2ft., running into 4ft. by 2ft. 8in., 4ft. barrel.

The low level empties into an elliptical sewer, 5ft. by 3ft. 8in., from whence it is pumped into the outfall, whence it is conveyed into the sea by 2 iron pipes, each 3ft. in diameter.

The branch drains are partly brick, partly stoneware pipes.

The brick drains are all eggshaped and vary in size from 1ft. 9in. by 1ft. 2in. to 2ft. by 1ft. 4in.—2ft. 6in. by 1ft. 8in.—3ft. by 2ft. These are all laid into stoneware blocks (JENNING'S patent.)

The stoneware pipes are vitrified and vary in size from 12in. of 1½in. thickness, to 15in. of 1¾in. thickness.

The sockets are 2½in. deep, and they are laid and embedded in 4in. of concrete all round. There are manholes at distances of about 300ft., and flushing shafts at every bend; and the sewers are ventilated through charcoal trays.

The soil pipes from water-closets are 6in. and 9in. diameter.

The main drainage works are estimated to cost £150,000.

The water works are in the hands of a private Company. The supply is intermittent, and is on for about 8 hours out of the 24. It is derived from spring water in the chalk at Havant, about 8 miles distant from Portsmouth. The water flows into a collecting reservoir, which holds about 2 million gallons, from whence it gravitates into a pumping well, from which it is lifted by 2 80-horse power engines into a service reservoir in Portsdown Hill, situated about 2½ miles from Havant, whence it is brought into Portsmouth, a distance of about 7 miles.

The supply equals about 3 million gallons a day, and is distributed to about 16,000 houses. Cisterns in houses are compulsory.

WORTHING.

The following Statement is compiled from information kindly given by the Local Authorities.

Worthing is a small Town, on the coast of Sussex, chiefly noted as a watering place. The lowest part of the Town is from 3 to 4ft. below high water mark.

The population is estimated Nov. (1869), to be between 7,000 and 8,000 persons. Therea of the district sewered, comprises 2 square miles.

Main drainage works have been executed, and a separate system adopted. The main sewers constructed of brick, are barrel shaped, they are 3ft. at the outfall, diminishing gradually to 12in. at the highest point.

The branch sewers are glazed earthenware pipes, from 6in. to 9in. diameter. There are about 1,500 houses fitted with water-closets. Ventilation is effected through charcoal trays at the manholes, and also through 6in. ventilating pipes. The down spouts are not connected with the sewers.

Flushing is effected by hose pipes, connected with the water mains, at the bend of every sewer.

The sewage flows down to a well, which is 30 ft. deep, and of an average breadth of 10 ft.

In dry weather about 400,000 gallons, and in wet weather double the quantity is pumped by 2 engines 1 of 16 horse-power, which works an average for 18 hours, 1 of 20 horse-power, which is only occasionally used.

There are 2 pipes, through which the sewage is conducted from the pumping well; one of earthenware, 15in. in diameter, for conveyance of sewage for the low level; the other of iron, through which the sewage is forced on to the high level.

THE SEWAGE FARM at Worthing consists of 90 acres, which slope downward to a brook. The sewage for the low-lying ground, brought down as described above, is received into a cistern on the highest level; from this it flows through a covered main carrier, consisting of a pipe about 1 ft. in diameter. Branch carriers which are simply earth trenches, communicate with the main carrier, and are distant from each other about 3 rods (49½ ft.) At each junction with the main, is an expensive and unnecessary arrangement, consisting of an iron flanged pipe let into masonry.

One field consisting of 40 acres, is sown with rye grass. Up to September, 4 crops had been cut, averaging 12 tons per acre.

Twenty-seven acres were laid out in pasture, on which cattle were grazing.

On the high level there are 20 acres on to which the sewage is pumped; 9 acres being sown with rye grass, and 11 with roots and cabbage.

MR. LANGLEY the able superintendent of this farm, advises that the land should be divided into 3 portions, and that in the early autumn of each year it should be all ploughed, and the land soaked with sewage for a fortnight.

Then, that the 1st division should be sown with roots, the 2nd with cereals, such as wheat, oats, etc.; and the 3rd with rye grass.

By such treatment a succession of crops is ensured to each plot of land, and the soil will yield far heavier crops, than if the same crop is repeatedly grown on the same land.

HASTINGS.

The following Statement is compiled from information kindly given me by J. MEADOWS, Esq., Town Clerk; and from extracts from a report by WM. ANDREWS, Esq., Borough Surveyor; and also from extracts taken from the Municipal Corporations' Directory.

The Old Town of Hastings is situated in a valley between 2 hills, whilst the New Town extends along the sea shore, until it becomes incorporated with the township of St. Leonards.

The population of Hastings is estimated to amount to about 30,000, who live in about 4,000 houses; the gross estimated rental is about 20 per cent more than the rateable value, which is £162,836; the area of the Borough is 1,800 acres.

Main drainage works have been executed at a cost of £47,030.

Formerly the sewers discharged into the sea by 3 outlets, but the sewage formed a nuisance on the beach, and an intercepting sewer was consequently begun in 1866 and finished in 1869; the old outlets being still retained as overflows during storms. The sewers carry off both storm water and sewage: they extend for about 12 miles. The main sewers are constructed of brick and are eggshaped, while the subsidiary drains are stoneware pipes, and they vary in size from 9in. to 5ft.

The main intercepting sewer from Warwick Square to the Albert Memorial, a distance of about $\frac{3}{4}$ of a mile, is 2ft. 9in. by 4ft., with an inclination of 1ft. in 794ft.; from the Memorial to the junction of the Bourne, being a length of 1 mile 200ft., the sewer is 3ft. 6in. by 5ft., and has an inclination of 1ft. in 1,320ft. From the

Bourne to the tank the length is $\frac{1}{4}$ of a mile, and the sewer 4ft. by 5ft., with an inclination of 1ft. in 1,320ft.

The sewers are ventilated into the streets through charcoal trays; and they are flushed by salt water, which is impounded at high tide, and allowed to flow through the sewers.

The sewage flows into a tank 210ft. long, by 100ft. broad, and of a depth of 14ft.: this tank is capable of containing $1\frac{1}{2}$ million gallons. The bottom of the tank is about 5ft. 6in. above low water at neap tides. Its discharge pipe is a cast iron 4ft. pipe, with a fall of from 8 to 10ft. per mile, which will empty the tank when full in about $1\frac{1}{2}$ hour. The penstock is lifted about an hour before low tide, and the sewage runs away to the eastward.

THE WATER SUPPLY of Hastings is derived from surface reservoirs, from springs, and from an artesian well.

The water after collection is forced by pumps up to tanks, about 400ft. above sea level, and about $\frac{1}{2}$ -mile from the pumps. The supply is intermittent; and cisterns are compulsory on houses.

A controversy arose some few years ago, regarding the contamination of the water with lead, and it was stated that instances of lead poisoning had taken place in consequence of drinking the water that had been stored in leaden cisterns. An analysis of the water so used was made by DR. TAYLOR, who failed to detect any appreciable quantity of lead in the water.

CROYDON.

The following Statement has been compiled from extracts from the very valuable reports of BALDWIN LATHAM, ESQ., Engineer to the Local Board of Health.

"The Town is situated in the county of Surrey, on the east and west sides of a valley through which the river Wandle runs,

The natural drainage outfalls of the Parish are—for the north portion into the Effra river; for the north-east portion into the Ravensbourne; for the north-west and centre portion into the Streatham brook; and the remaining portion into the Wandle. The total area of the district under the jurisdiction of the Local Board is 9,821 acres; and the population is estimated at 70,000.

Croydon was almost the first town to put in active operation the Public Health Act, and to try the new system of tubular pipe sewers, although it was a system condemned by some of the ablest Engineers of the day. In spite, however, of that condemnation, it is a system that has year by year gained extended adoption, and has completely revolutionized the whole system of drainage throughout the Country.

As Croydon was the pioneer in the track in which many Towns have followed, many imperfections did of necessity exist in the early works. Of the great errors committed in the early works, one was the too small size of some of the sewers; and another the want of sufficient strength in the sewer pipes themselves, 15in. pipes having a thickness of but $\frac{1}{8}$ of an inch. collapsed when laid at moderate depths.

The total absence of any system of ventilation of the sewers was the most grievous error, for no sooner was the original works drawing near to completion, than the Town was visited by an epidemic of Fever, which though not very fatal, was extensively prevalent. There can be no doubt that this outbreak was due to the entire absence of any system of sewer ventilation. A remedy against the recurrence of such a disaster was at the time proposed, and a system then adopted; but within the last 18 months, a more perfect system of ventilation has been devised and carried out. The Board have now under their control 75 miles of public sewers, of various sizes and inclinations and depths.

The sewage is removed at the outfall into 1 of 2 large settling tanks, where it is strained to remove the solid matter, which, after being mixed with street sweepings or earth and allowed to stand for a few days until quite solid and free from odour, is used on the land. The liquid portion of the sewage then flows on to the Farm at Beddington, which is situated about 2 miles from the Town, and covers 280 acres. The soil at Beddington is sandy upon a gravel subsoil. The sewage flows through open earth channels; the main channel varying in breadth from about 12ft to 4ft. The land is laid out in Italian rye grass, and common English grasses. Earth trenches communicate with the main channel, at distances varying from 15 to 20 yards apart.

"The sewage"—MR. LATHAM says—"may be applied during all stages of the growth of the plant, up to the time of cutting the crop; and it only need be withdrawn from the land for a very limited period previous to the time of cutting."

In carrying out this system it is absolutely necessary to prepare the land for the reception of the sewage, by carefully levelling it, so that no holes or uneven places may exist: an uneven place will certainly retard the flow of the sewage, and if the sewage should be allowed to stagnate, owing to any unevenness in the ground, it will effectually destroy instead of invigorating the crop.

The sewage of Croydon varies (1866) in bulk from 50 to 120 gallons per head per day of the population.

About 6 crops of grass have been cut in a single year, and sold for an average price of £5 per acre.

The effluent water flows into the Wandle.

Italian rye grass is the proper crop for sewage, but it dies out every 3 years, and it requires to be renewed *after*—and this is the first principle in sewage irrigation—the land has been ploughed up.

THE WATER SUPPLY of Croydon is derived from 3 wells, sunk and bored into the chalk.

The original works for water supply consisted in enlarging and deepening a well on the site of the works.

The erection of 2 Cornish engines, with cast iron equal beams, 30in. cylinders, and 9ft. stroke, the plunger of each pump being 12in. in diameter. The erection of 2 single flued Cornish boilers, 5ft. diameter, and 21ft. long, which very shortly after the completion of the works, were supplemented by another boiler of the same dimensions, and the construction of a covered reservoir at Park Hill, consisting of a domed chamber, 74ft. diameter, and 35ft. deep, capable of holding 900,000 gallons of water.

A rising main 12in. in diameter was laid from the works to the reservoir: this main also furnished the supply of water to the Town.

The original works were calculated to furnish a supply of 1 million gallons of water per day; and their cost amounted to £26,353 14s. 8d.

The rapid increase in the population of the Town, and the consequent increase in the consumption of the water, rendered it expedient to provide the means of furnishing an additional supply.

A new well was sunk and bored to the depth of 150ft., being just twice the depth of the old well. Upon the completion of this well, it was found to furnish a supply of water totally independent of, and distinct from the supply of the old well.

The site of the new well was arranged to form the pumping wells, in which the pumps of a large engine could be fixed, and as it was found on the completion of the well that there was no connection between the supplies of water,

it became necessary in order that the engine should raise the full volume of water, that a connection should be made between the new and old wells.

This was done by means of an 18in. cast iron syphon, which performs its work admirably; provision is made in the machinery for keeping this syphon exhausted of air.

A new engine which is in the same house as the old one has been erected. It is a Cornish engine, and has a wrought iron beam, consisting of two rolled 1½in. plates, kept apart by cast iron distance pieces which are rivetted to the plates. The beam is 38ft. long over all 35ft. from centre to centre; the piston and pumps have each 10ft. 6in. stroke; the plunger of the pump is 24in. diameter, and the cylinder is 60in. diameter; the cylinder is provided with a steam jacket, and this again is felted and lagged; the piston of the engine is supplied with metallic packing. Instead of the ordinary injection condenser, a surface condenser containing about 400 copper tubes has been fitted to the engine. The advantages of this description of condenser are, that the water passing into the condenser to condense the steam never comes in actual contact with the water required for condensing, consequently the water passing away is as pure as when introduced, and not being at all contaminated with any oily or any other matter, as in the case with the injection condensers of the old engines, it is at once available for the public baths, and now supplies the swimming bath with warm water.

These new boilers, each 27ft. long and 5ft. 6in. diameter, and each containing a single tube 3ft. diameter, have been fixed. The furnaces of these boilers are fitted with smoke consuming apparatus.

An 18in. rising main has been laid from the new engine to the reservoir, and base of the water tower at Park Hill: 23¼ miles of water mains have been laid in connection with the new works.

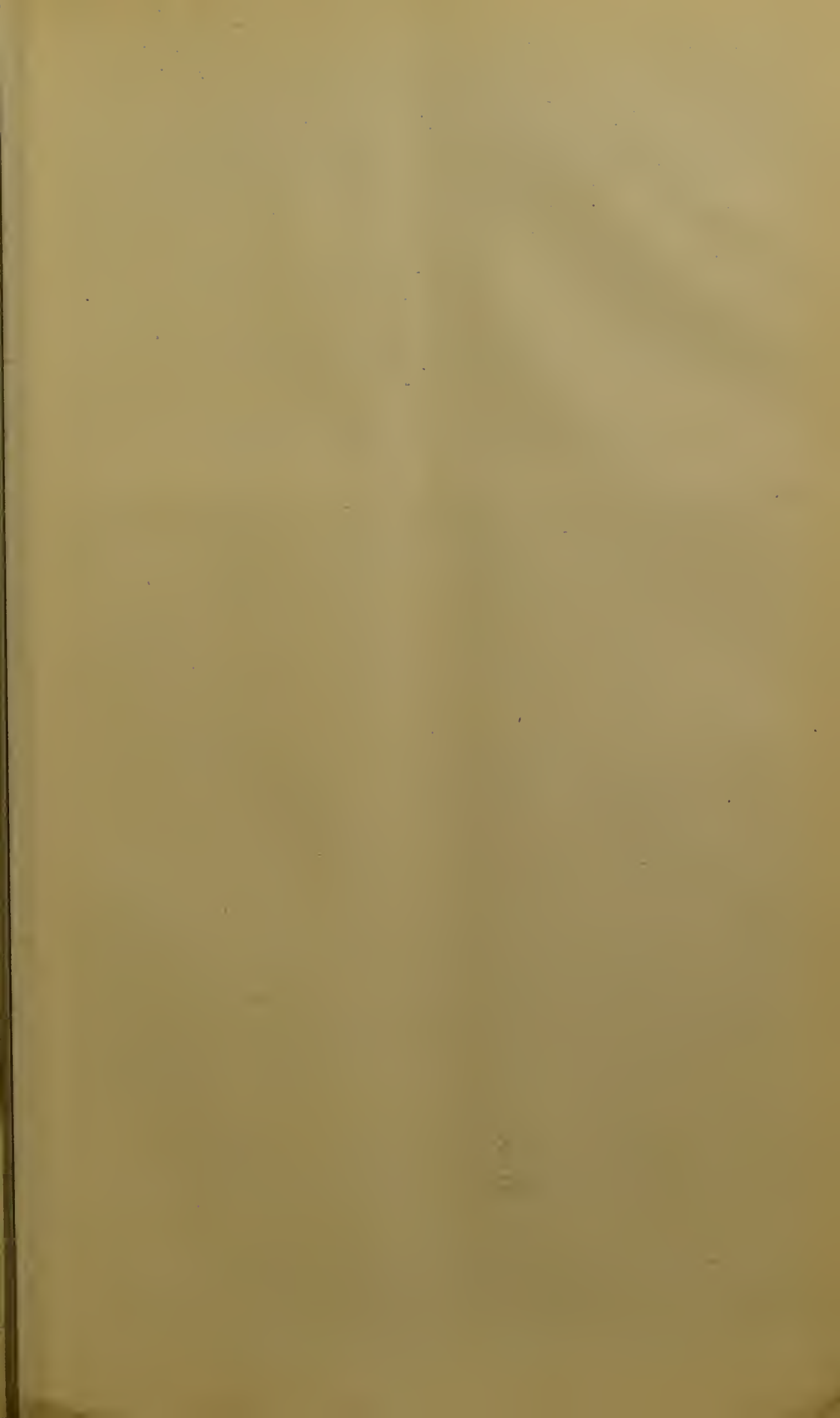
The erection of residences in the higher parts of the Parish rendered it necessary to establish a high level service, consisting of water tower engine, and engine house, and a distinct set of mains to these high districts.

The water tower contains a reservoir in the base which will hold 94,000 gallons of water, and which is on the same level as the covered reservoir in connection with the supply of the Town; also a summit tank of wrought iron capable of holding 40,000 gallons of water. The shell of this tank is made of ¼in. plates of iron, strengthened at the joints with T irons, and the bottom of ⅜ plates. It is supported, partly on the external walls, and partly on 3 central columns, one of which serves to furnish a supply to the high level, a second forms the rising main for the engine house, and the third acts as an overflow.

The engine house is situated at the foot of the Tower, and contains an horizontal engine and 2 double-acting pumps, fixed vertically: the steam is furnished by 2 of FIELD's vertical boilers.

The new water works, including all the mains, cost of water Tower, low and high level engines, pumps, engine houses, boiler houses, monies paid for compensation, and a stock of pipes in hand has been £42,430 0s. 7d.

At the present time (Sep. 1869), 7,697 houses are supplied, and the supply is distributed by 11,005 taps, 9,416 water-closets, 284 baths, and 27 fountains. The population supplied in 1868 and 1869 may be taken at 45,000 persons, and the quantity supplied at 50 gallons per head per day. The average daily supply has been 2½ million gallons; but from defective service pipes, there has been and is an enormous leakage, so that it is estimated nearly 1½ million gallons are daily lost or illegitimately used."





THE
CONTAGIOUS DISEASES ACTS

(WOMEN,)

FROM A SANITARY POINT OF VIEW:

SHOWING HOW AND WHY SUCH DESPOTIC MEASURES NOT ONLY FAIL TO
REPRESS VENEREAL DISEASE, BUT TEND TO INCREASE
ITS MOST SERIOUS MANIFESTATIONS.

CONTAINING THE SUBSTANCE OF A PAPER READ BEFORE THE
MEDICAL SOCIETY OF LONDON, JAN. 17TH, 1870.

BY CHARLES BELL TAYLOR, M.D., F.R.C.S.E.,

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LATE PRESIDENT PARISIAN MEDICAL SOCIETY.

PART II.

The state maxim of the wisest of the Greeks was this:—"An injustice to the meanest citizen is an insult to the whole community."

"Grant that women who trade in their persons are the meanest of citizens, they do not cease to be citizens, much less to be women. It is not only becoming in us—it is our absolute duty—to be indignant, and loudly to declare our indignation, at the indecent, depraving, and barbarous treatment to which certain women are now subjected, as well as at the overthrow of legal safeguards for all women."

"When bodily instrumental outrage is inflicted on females, no man with a heart in him will speak of it softly. Women—nay, wives and women who recently have been or are about to be mothers! Such violation of the person is an intrinsic wickedness—an indefensible atrocity. Legislation is desecrated, Parliament is dishonoured, resistance becomes nature's own command, when such things are enacted."—PROFESSOR NEWMAN.

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**The First Part of this Pamphlet,
showing the Cruelty and Injustice
of the Contagious Diseases Acts
in a legal sense, may be had of
F. C. Banks, 31, Mansfield Road,
Nottingham.**

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because, also, the milder forms of venereal disease (nine-tenths, at least) though unimportant in themselves, are still great checks upon incontinence, and, consequently, the means of saving thousands from the more serious malady. I extract the following from the leading quarterly journal of medical science, *The British and Foreign Medico-Chirurgical Review*: "Surely 455 persons suffering from syphilis in one form or another in a poor population of a million and a half, such as that which seeks gratuitous medical aid in our London population, cannot be held to be a proportion so large as to call for exceptional action on the part of any government;" "and it must be remembered," says Mr. SIMON, "that London illustrates the utmost dimensions the evil can attain in this country."—See p. 20.

SECOND: That the means proposed are certain to fail in the attainment of the object in view. Because absolutely healthy women (by mediate contagion—see p. 39) communicate infection;—because the examinations cannot be carried out in a very large proportion of cases;—because it is impossible to distinguish numerous affections to which most respectable women are subject, from venereal diseases;—because the women examined are exposed to great danger of infection from contaminated instruments;—because the examination and restriction of one sex only, for a disease common to and propagated by both sexes, is not only a cruel injustice, but a delusion and a snare;—because the system calls into existence and fosters a numerous class of clandestine prostitutes, who, from fear of detection, conceal their diseases, and become permanent sources of infection;—and because true syphilis can so rarely be detected in the female, that the examinations, by giving a false security, offer a direct inducement to thousands, especially married men, to contract disease.—See p. 43.

I quote the following from MM. PUCHE and FOURNIER'S tables: "Of 873 men who contracted syphilis in Paris, 625 owed this worst form of infection to intercourse with registered and regularly inspected women,"—see p. 44; and the following statement from M. LE COUR, the head of the Parisian police employed in carrying out these regulations: "We may fairly consider the 9,500 patients

who are treated in hospitals as representing certainly not more than one-fifth of the venereal patients of Paris. We thus reach a total number of 47,500, a formidable number, although it is probably *below the truth*." — See p. 57. I contrast this statement with the one already quoted from *The British and Foreign Medico-Chirurgical Review*, and remind my readers that the population of Paris and its suburbs is not more than one-half that of London.

THIRD: That other means, entirely unobjectionable, Christian, merciful, and in full accord with the free spirit of English institutions, would suffice to check the spread of disease, in proof of which I have quoted a mass of evidence to show that women are most eager to apply to hospitals for treatment when diseased; and that there is no need whatever for police spies, disgusting periodical examinations of healthy women, or the infamous degradation of the sex generally, such as is too surely accomplished by the present law.

I quote the following from evidence taken before the Venereal Commission in 1864: "Much more good may be done by free hospitals than by police interference. Police regulations can get only a certain number of women, whereas free hospitals would attract all suffering from disease, even those who had contracted it clandestinely, and who would escape the police."—*J. R. Lane, surgeon to the London Lock Hospital*. (See p. 60)

Before the enactment of this disgusting law, no subject of this realm could be imprisoned without some high and felonious crime were sworn against him or her. Suspicion was no warrant for suspension of *habeas corpus*; facts only were accepted as proofs; and of these facts judge and jury formed their opinion. "This," as that great constitutional historian HALLAM has observed with regard to private persons, "is the foundation of all our liberties; remove but a corner-stone, and you upset the whole fabric." Under the provisions of the Contagious Diseases Acts, British subjects, not even suspected of any crime, are deprived of their liberty for months, and periodically subjected to personal violation of the very grossest kind, at the mere suggestion of policemen. Surely the authors and promoters of this law, who have thus abolished all legal safeguards of woman's honour, and sanctioned the perpetration of the most atrocious indecencies upon helpless women and children, have but small claim upon our forbearance when they advance the puerile plea of decency or delicacy as a reason for hearing only one side of this unspeakably important question. Those who make sanitary laws are bound to learn something of sanitary matters, and not jump to conclusions from garbled and one-sided statements emanating from interested sources, or anonymous writers in sympathizing journals, whose editors dare not publish replies.

What I have written now passes from my control. Some of the facts adduced will be perhaps best appreciated by medical men, but they are so expressed that all may understand, and there are few who will not, on reflection, be able to verify the greater portion.

THE CONTAGIOUS DISEASES ACTS.

PART II.

THUS far I have tried to show that the principle of the Contagious Diseases Act is unconstitutional and unjust, inquisitorial, and cruel; moreover, that even now the same principle is creating an intense nausea all over the Continent, and a hatred of executives embarrassing to Governments.*

I shall next demonstrate that as a sanitary measure the Act is also inexpedient; that it has been enacted without any adequate necessity; that it is certain to fail in the attainment of the object in view; and that, inasmuch as it insists on doing in one way that which can only be accomplished in another, it is an apt illustration of Pascal's definition of tyranny—"La tyrannie est, de vouloir avoir par une voie, ce qu'on ne peut avoir que par une autre."

The truth is, that such despotic measures are utterly useless so far as the repression of disease is concerned; and what has already been stealthily legalised has been against the judgment of some of the first physicians and surgeons in the world, and is confronted by disclosures from abroad which exhibit that efforts at police control not only fail to stamp out disease, but breed evils so monstrous and horrible that our own ills are not to be named with them.

It is not the first time that the island has been frightened by false alarms about the extent and malignancy of venereal affections. A like panic, in high quarters, went nigh to overwhelm the country in 1837, a calamity most happily averted by the accession of Her

* It is impossible to ignore the fact, that in whatever country applied this curse is directly and bitterly opposed to the feelings of the inhabitants. During the recent *émeutes* in Paris, it was declared impossible to call in the aid of special constables, as the hatred and contempt of the respectable middle and lower classes for the police agents would prevent their acting with them. One of the witnesses, M. Groux, at the trial of Prince Pierre Bonaparte, would insist upon, contemptuously, calling the police officers "*mouchards*," and on being corrected by the President, said, "I will therefore address them as something equally despicable,—namely, policemen in plain clothes,"—the attire of the agents for carrying out the Contagious Diseases Acts, both on the continent and at our own garrison towns. Once let Englishmen feel that the laws of this country are not based on the principles of morality and even-handed justice, and a similar feeling here will render it impossible for our present force to maintain order.

Majesty to the throne. It was thereupon deemed impossible for any minister to approach so young a Queen with the mockery of adulation, and solicit her to stain her virgin hand by setting its sanction on gross and outrageous indecencies to be perpetrated on her sex—indignities heretofore undreaded by the meanest, and altogether without parallel in the annals of England. So it was suddenly discovered that the pestilence which had appalled them was not so urgent after all; in fact, the whole measure was quietly shelved until a more convenient season. None of the harm, so confidently predicted, came of this enforced *Laissez faire* policy; and whether in reference to health, to liberty, to religion, or to morals, our King Log has always proved infinitely preferable to the King Stork of neighbouring countries.

For some mysterious reason, apparently not very clear to ministers themselves,* the so-called frightful pestilence, after a space of thirty years (during which it has progressively diminished, both in extent and virulence), is unearthed again; and, in the interests of the immorality attendant upon a large standing army, furbished with sensational adjuncts, in order to terrify the ignorant inhabitants of a free country into abject submission to the foulest form of continental despotism.

We are falsely, yet perseveringly, assured that gout, cancer, rheumatism, and consumption†—one might almost add all other ills that flesh is heir to,—are manifestations of syphilis. Articles from anonymous writers, bitten with the mania of universal syphilis, are published in widely circulating lay papers, which solemnly inform the public that two out of three of the entire population of this country are affected with some form of venereal disease.‡ Soldiers suffering for a few days from slight attacks of gonorrhœa or non-

* Some clue to the origin of this invasion of the guaranteed rights of British subjects is afforded in Sir George Grey's speech at Newark. Sir George observed:—"When he saw an enormous army had been collected in England, for which the people of this country would have large sums to pay—when he saw England portioned out into military districts, and both the male and female portion of the populace subjected to military law—a restraint which was never before known—was he to be blamed if he gave good advice, and say, 'think well what you do. Englishmen have never been subjected to such things in past times. They are a noble, a patient people—look at the way in which the poor have borne their distress and poverty—but drive them not too far, or you may find you have committed grievous errors.'"

† John Hunter says—"Syphilis never becomes mixed or confounded with any other disease; it never terminates in any other affection;" and Lancereaux remarks—"It is important to know, that the morbid unities, like the natural species, do not become transformed. Syphilis is always itself, and never becomes scrofula or tuberculosis." These reflections, he observes, are "applicable to the pretended transformations of syphilis into other diseases." This opinion is shared by all the most eminent authorities of the present day.

‡ See *Leeds Mercury* and other papers.

infecting sores, affections of no consequence either to themselves or others, are gravely reported as invalided on account of venereal diseases; * as though they had been incapacitated for life; when, in point of fact, the vast majority need not have been confined for a day.

One severe case of syphilis, such as occurs not oftener than once or twice in a thousand cases of venereal disease, is cited as though it were a fair typical example of all cases of contagious disease. We are incorrectly assured that the disease is constantly transmitted from parent to offspring, and serious and most unimportant local affections are all lumped together in statistical records, as though they were all cases of syphilitic disease.†

Certain metropolitan papers even improve upon ordinary statistical methods by multiplying the weekly attendants at various London Hospitals by 52, a procedure by which one patient, if ill for six months, is made to represent 26 sufferers; if ill for a year, 52; and so on in proportion, until the most absurdly false figures are built up and paraded to mislead the public. Influential but misguided journalists, profoundly ignorant of the difficulties, dangers, and sources of fallacy which beset the attempted state disinfection of prostitutes, and oblivious of the entire failure of similar attempts elsewhere, are yet, to all appearance, insanely convinced that vain and aggravating efforts at police control, would suffice to stamp out disease, and that the opinions of a few gentlemen, given for the most part in avowed ignorance of the provisions, nature, and practical effects of the law itself,‡ preclude all further objection, whether from medical science, from moral instincts, or rights at common law. Hence, on the one hand, they insult and hector over the ladies of England; on the other they have persistently refused to hear or publish anything emanating from scientific opponents of the measure.§

* See "Justina's" reply to Miss Garrett's letter in *Pall Mall Gazette*.

† See report of the special correspondent of the *British Medical Journal* on the Government Lock Hospitals. All local lesions are classed under the head of syphilis; all discharges, however originating, as gonorrhœa.

‡ The great majority of those who gave evidence before the Venereal Commission stated that they had not read the Contagious Diseases Act, and had had no experience of the operation of similar laws. Hasty generalisation is the besetting evil of our profession, and it would be difficult to adduce an instance where more fatal results have followed than the present.

§ The conduct of the Press in reference to this matter is unparalleled and inexplicable. To my knowledge hundreds of letters and articles exposing the atrocity and inexpediency of this law have been refused and suppressed by editors of various papers. No article or letter in favour of the Act, so far as I am aware, has remained unanswered or refuted, but almost without exception replies are refused; one side of the question only is presented to the public. Surely we over-estimate our privileges when such a conspiracy of silence in the interest of debauchery is possible.

Now, I contend that this course of action on the part of the promoters of the new law is not only intolerable, but pernicious to a degree, and none the less so (as some seem to think)* because the deadly blow aimed at the first principles of British jurisprudence, falls at present only upon the weakest and most helpless of the nation.†

First, so far as our army is concerned, it is actually a fact that the mortality of soldiers, from all causes, *has diminished one half* during the last fifteen years and it is also a fact that contagious diseases of venereal origin, in lieu of increasing to an appalling extent, as we were taught to believe they were, have really for some years prior to the enactment of this measure declined so steadily and so considerably, that had the fall in the per centage of cases treated taken place *after* instead of *before* this shameful addition to our statutes, the advocates of the measure would have pointed triumphantly to results, as conclusive of the question in a sanitary point of view.

Thus I find, on referring to the War Office statistics, prepared by Dr. Balfour, the head of the statistical branch of the Medical Board, and published in the Parliamentary Blue Books, that in the year 1860 there were 440 admissions to hospital per 1000 of mean strength for venereal disease in Devonport and Plymouth. Without any Contagious Diseases Act the number was reduced in the year 1864 to 289, a fall of 151 cases per 1000 at these two stations.

* Many persons say it is only prostitutes that will suffer, forgetting the universal law, that when injustice is done all must suffer.

† Hallam records that in 1737, a Bill was brought into Parliament to prevent smuggling. In some of its features it resembled the Contagious Diseases Act. On the oath of two witnesses, who swore that they had good cause to believe a man was a smuggler, the man might be arrested. The Bill was warmly opposed by the Lord Chancellor Talbot, and by Lord Hardwicke, a crown lawyer. Lord Hardwicke said—"Facts only can be admitted as proof by our laws, and of these facts a *Judge and Jury* must form their opinion. A great security for our liberties is this, that no subject of this realm can be imprisoned unless some felonious and high crime be sworn against him or her; this, with respect to private persons, is the very foundation stone of all our liberties; and if we remove it—if we but knock off a corner—we may probably overturn the whole fabric." Under the sanction of the Contagious Diseases Act, women are arrested for the crime of being out of doors. Modest women, as recorded in Mr. Parsons' evidence, have been *brought up* by the police and told, that if they did not sign a voluntary submission they would be taken before the magistrates; they are actually *imprisoned* for the crime of "menstruation," and are liable, at the option of a surgeon, to nine months' imprisonment, with the lowest characters, on suspicion (the diagnosis is one of extreme difficulty, and mistakes must constantly occur), of being in a contagious condition.

George Thompson said, in a speech at a meeting at Newcastle:—"I take my stand in antagonism to the Contagious Diseases Acts on the ground that such enactments exceed the rightful and legitimate functions of the legislature. My conviction is, that these Acts exceed the constitutional power of Parliament; they have sanctioned a measure which is at once immoral in the highest degree, indecent and revolting, and a most atrocious invasion of the sacred, and, as I believe, indefeasible rights belonging to every woman,—even to the most degraded and most outcast."

In Chatham and Sheerness, during the year 1860, there were 351 admissions to hospital per 1000 of mean strength, on account of venereal diseases. During 1865 the admissions were 292 per 1000, a reduction, without any Act, of 59 cases per 1000.

At Shorncliffe, during the year 1860, there were 327 admissions per 1000 of mean strength, for venereal diseases. Without any Act this number was reduced in the year 1865-6 to 219 per 1000, a diminution of 108 cases per 1000.

At Woolwich, during the year 1860, there were 473 admissions per 1000 of mean strength. Without any Act in 1865, the admissions for the same cause were reduced to 204 per 1000, a fall of 269.

At Aldershot, during the year 1860, the admissions per 1000 from this cause were 339. In 1866 there were 233, a fall, without any Act, of 106 cases per 1000.

At Portsmouth, in 1860, the admissions were 503 per 1000. Subsequently in 1865 they were reduced to 329, that is a reduction, without legislative interference, of 174 per 1000.

Thus at Devonport and Plymouth there was a reduction of 151 cases; at Chatham and Sheerness, of 59; at Shorncliffe, of 108; at Woolwich, of 269; at Aldershot, of 106; at Portsmouth, of 174 per 1000 of mean force, without any interference whatever, showing before the passing of the Act to these stations a decline of 857 cases per 6000 of mean force. In fact Dr. Balfour, in his evidence before the Commons' Committee, says, "It may be stated generally, that prior to the introduction of the Act there had been at *all* the stations a *progressive decrease* in the amount of this class of diseases." Here is positive proof that contagious diseases were rapidly, steadily, and most satisfactorily declining, when an outcry was raised for despotic laws, on the grounds of their progressive increase at military stations. I shall shortly show that since the passing of the Act this decline has ceased. At present I merely wish to call attention to the incontrovertible fact that disease was declining in the army when the people of the country were asked to sacrifice their most cherished rights on the ground of its appalling increase. The same observation, as to the general decline of contagious diseases, applies, and with even greater force, to the civil population. In fact, there is only one form of venereal disease, true syphilis, and that the most rare, which ever affects the constitution, or which could on any plea be considered a matter of state concern. This worst form of disease is, as M. Auzias Turenne has remarked, on the wane all over Europe, and is certainly less common and less severe in England, as I can, from my own experience, affirm, than in countries where Contagious Diseases Acts are in force. Indeed, syphilis

has been declining both in extent and virulence with each succeeding decade for the last three centuries, until we can scarcely recognise it as the malady described by our forefathers. And it is a well-known fact, one which every practitioner can verify by a reference to his own cases, that the great majority of persons afflicted with this the worst form of venereal disease, are rapidly and permanently cured, never suffering afterwards themselves, or entailing disease on their offspring. Lancereaux, than whom no more modern or higher authority can be quoted, says in reference to this point, "In the majority of cases, the general eruption once over, syphilis ceases as if it had completed its entire orbit." * * "In these cases (far from being rare) syphilis is but an abortive disease, slight and benignant, it does not leave behind any troublesome trace of its passage." * * "It is impossible to lay *too much stress* upon this point at the present day, when syphilis inspires *exaggerated* fears, it cannot be too widely known that this disease becomes dissipated completely in a great number of cases after the cessation of the cutaneous eruption, and sometimes even with the primary lesion." Again, this eminent author remarks, "An infected father does not necessarily transmit the disease from which he is suffering. More than this, we see children born and grow up quite healthy, both of whose parents are, or have been, syphilitic." (See *Treatise on Syphilis, Historical and Practical*, by Dr. E. Lancereaux, head of the Clinical Department of the Faculty of Medicine in Paris, Laureate of the French Institution of the Faculty of Medicine, and of the Imperial Academy of Medicine, &c.)

The editor of the *British and Foreign Medico-Chirurgical Review* for January, 1870, after endorsing John Hunter's statement, "that syphilis is always syphilis, and cannot be transmuted into other diseases," and remarking upon the amount of "deplorable nonsense" that has been recently written on this and allied subjects, says: "Syphilis is not a disease which is fatal to adults in its primary or secondary manifestations, and the majority of those who have undergone the disease live as long as they could otherwise have expected to live, and die of diseases with which syphilis has no more to do than the man in the moon—they are active, useful, and wealth-producing members of society so long as they continue in it."

Many years ago, Ambrose Paré, alluding to this form of venereal affection, said: "the disease is evidently getting milder and milder every day;" and Mr. Syme, of Edinburgh, in the last edition of his *Standard Work on Surgery*, remarks: "It is now fully ascertained that the poison of the present day (true syphilis) though arising from similar local sores, does not give rise to the dreadful consequences which have been mentioned. The case may be tedious, and the skin,

throat, or periosteum may be slightly affected, but none of the serious effects *that used to be so much dreaded* EVER appear, and even the *trivial* ones just noticed *comparatively seldom* present themselves. We must therefore conclude either that the violence of the poison *is worn out*, or that the effects formerly attributed to it depended on treatment." Dr. Burns Thompson, writing to the *Edinburgh Daily Review*, in reference to the Contagious Diseases Acts, says: "How can anything be said in palliation of acts like these? If it could be shown that the maladies with which they deal are exceedingly prevalent and dreadfully fatal, and that stupendous physical benefits might be expected from their application, many might be tempted to endure them at least for a time, and allow the *silly outcry* about innocence suffering from disease to soothe them into inaction." Further, he remarks: "In respect to the extent and malignancy of these diseases, my own testimony might be esteemed of some little value. I have done professional duty for fifteen years in the districts usually supposed to suffer most from such ailments, and for ten years have stood at the head of the Edinburgh Dispensary, where I have had good opportunity of knowing the prevailing diseases, and I can only say that the representations given by the advocates of these Acts are to me perfectly unintelligible; they seem to me to be gross exaggerations." He adds: "It is needless to enlarge on these points, for if, as is affirmed by the first living surgeon (Professor Syme), the maladies are trivial, it will be hard for Miss Garrett or Berkeley Hill to rear on such a foundation a superstructure of stupendous physical benefits, and nothing else could palliate for one moment the existence of these loathsome Acts." Mr. Simon, medical officer of the Privy Council, and one of the first pathologists in Europe, remarks: "In an immense majority of cases syphilis is not of more than transient importance to the person attacked;" and M. Fournier, M. Ricord's distinguished successor, and surgeon to the Hôpital du Midi for venereal diseases (males) in Paris, remarked, in a recent lecture, "that in 100 cases of *syphilis*, judiciously treated, not more than five would prove of any serious consequence." Mr. Acton remarks: "So rare is death from uncomplicated syphilis that many a surgeon has never witnessed a single instance, and those attached to hospitals where venereal diseases are specially treated have so few opportunities of witnessing *post mortems* of persons who have succumbed to them that it becomes interesting to enquire how they produce death." He subsequently shows that where death has been attributed to syphilis it has been due to other and accidental causes, such as erysipelas and various other supervening maladies. The whole mortality of prostitutes at St. Lazare, the female venereal hospital at Paris, was but 16 in 1853 and 17 in 1854, and the deaths were caused

by non-syphilitic affections, the germs of which they had contracted before coming into hospital. In the year 1855 there were only 14 deaths at the Lourcine Hospital out of 1,384 patients admitted for venereal diseases, and of these only *one* could be attributed to syphilis. In St. Bartholomew's Hospital, London, an institution that has 650 beds for the reception of patients, and admits nearly 6,000 patients, not a single female died from syphilis, although some of the worst cases are admitted to the wards, and the most accurate accounts are kept. Mr. Byrne, surgeon to the Dublin Lock Hospital, where there is no Contagious Diseases Acts, when asked before the Venereal Commission whether syphilis had increased of late years, replies, "There is not nearly so much syphilis as there used to be. Formerly we saw persons suffering from depression of the nasal bones and other accidents from this disease *almost daily in the streets*; but no such thing is to be seen now. You will not see *such a case for years*." Mr. John Wyatt, Surgeon-Major to the Coldstream Guards, in reply to Viscount Lifford (see Blue Book), referring to his experience before the enactment of the Contagious Diseases Acts, says: "I can speak *most fully* to the fact that the diseases (venereal) are of a very much milder character than they used to be in former days. The class of syphilitic diseases which we see are of a *very mild character*, and in fact none of the ravages which used formerly to be committed on the appearance and aspect of the men, are now to be seen." Again he remarks, "This is the experience of all surgeons, both civil and military, that venereal disease has become much mitigated and of a milder type. It is an undoubted fact that the character of the disease is very much diminished in intensity." If this evidence had been given after instead of before the enactment of the Contagious Diseases Acts, would it not have been considered conclusive as to the success of the measure? Surely, if the prevalence and malignancy of syphilis is the *raison d'être* of this measure, we must look for its most awful manifestations in the persons of the women who are most exposed to infection. If the disease is so extensive as has been stated, prostitutes cannot escape contamination; in fact, the association for extending the act to the civil population would have us believe that one in four are always affected with some form of venereal disease; and yet Mr. Acton remarks "that when the prostitute withdraws from her career, as withdraw she will,—for they last as long as other people, and die at last of maladies common to respectable humanity,—it is extremely rare to find one with her nose sunk in, palate gone, or nodes on the shins." He further observes: "Mild results now form the penalty of frailty. No other class of females is so free from general disease as this is, and if we compare the prostitute at thirty-five, with her sister, who

perhaps is the respectable married mother of a family, or a toiling slave in the over-heated laboratories of fashion, we shall seldom find that the constitutional ravages often thought to be necessary consequences of prostitution exceed those attributable to the cares of a family, and the heart-wearing struggles of virtuous labour."

Mr. Holmes Coote, surgeon to St. Bartholomew's Hospital, says: "It is a lamentable truth that the troubles which respectable hard-working married women of the working class undergo, are more trying to the health and detrimental to the looks than any of the irregularities of the harlot's career;" and Dr. Drysdale, Physician to the Metropolitan Free Hospital, remarks, "As to the effect of employment upon mankind, in no case does the inquiry afford more food for reflection than in the case of prostitutes. It used to be presumed that prostitutes lived a few years of sin and misery and then died, but this view has not been found to be in unison with the facts. To sum up what will be vouched for by observers in all cities, the *health* of prostitutes is *above the present standard of female health*, the only diseases peculiar to them being venereal diseases. It is a popular error to suppose that these women die young or make their exit from life in hospitals and poorhouses. Venereal diseases do not appear to greatly influence the longevity of prostitutes, and syphilis, when not absurdly treated, is, in the great majority of cases, a mild disease." (*Prostitution Medically Considered*, by C. Drysdale, M.D., Hon. Sec. to the Harveian Medical Society of London.) Duchatelet, the great French author on prostitution, observes, "The *embonpoint* of prostitutes and their brilliant health strikes all who behold them united in groups;" and records the following as the result of his extensive experience: "Notwithstanding their excesses and exposure to so many causes of disease, their health resists all attacks better than that of the ordinary run of women who have children and lead orderly lives." The conclusions to be drawn from these facts are inevitable. If prostitutes can pursue their avocation for years and escape syphilis, the disease cannot be a very prevalent affection. If they suffer from it again and again, and retire at last unscathed and in as good or better health than the majority of women who lead orderly lives, how in the name of common sense, and in face of facts which any one may verify for himself, can the doctrine be maintained that the syphilis of the present day is such a fatal and destructive malady as certain persons would have us believe? We are told that the health of the army and navy with regard to contagious diseases is truly appalling. Surely no special education is required to judge of this question. Let any man with common intelligence look at our English soldiers and sailors, see them march or ride past, or notice the handsome fellows

on shore-leave or furlough swaggering about country towns, models of strength, and almost without exception boiling over with health and vigour; and yet we are told that they have all either had the disease or are actually suffering from it. If so, I should be glad to learn to what appreciable extent they are injured thereby, and how it is that they look so much stronger and ruddier than their brothers married and occupied in industrial occupations, who have never been exposed to similar temptations, or suffered from the disease? Here again one of two conclusions are inevitable; either the disease is not so common, or it is not so severe as the supporters of these measures would have us believe. Unquestionably it is not so severe as has been represented, and that it is not so common the following statement, which I extract from the *Lancet* for Feb. 28th, 1870, goes far to prove:—A regimental surgeon, writing to the editor of that paper, remarks that his regiment (1,000 men), *quartered in a manufacturing town where there is no Contagious Diseases Act*, had been recently, in accordance with a War Office ordnance, carefully inspected. Not a single case of venereal disease was discovered amongst them. It is needless to remark that if such an event had occurred in one of the unhappy subjected districts the promoters of the Contagious Diseases Acts would have been jubilant at the supposed success of the measure.

As to the higher class of gentlemen who suffer from syphilis, Mr. Acton remarks: “A man may practice in this special department in London (a centre to which all bad cases gravitate) for many years without gaining any experience of the affection of the bones of the nose which cause that organ to fall in, and that death from syphilis is unheard of in private practice. Rarely are the deeper structures affected, and patients generally *completely recover*, if not very injudiciously treated, within a reasonable time.” Recently in London, as recorded in the *Medical Times and Gazette*, twenty of the leading medical practitioners, each with a visiting list of from thirty to forty families daily, met and seriously discussed the following question, “Do you see the effects of syphilis in the cases coming under your care?” All replied most decidedly in the negative but two, and they practised in the lowest districts.

At a recent meeting of the association of the medical officers of health for London, the President, Dr. Druitt, stated, “That speaking from thirty-nine years’ experience, he was in a position to say that cases of syphilis in London were rare among the middle and better classes, *and soon got over* ;” and Mr. Skey, after commenting on the rarity of true syphilis in London—saying that he would travel many miles to see a true Hunterian (*i.e.*, infecting) chancre—and speaking of ordinary syphilitic sores, remarks, “In my opinion no

disease can be *more innocuous* than the large majority of these sores."

Of sixty-two medical practitioners in Nottingham, fifty-nine have subscribed their names to a petition and protest against the Contagious Diseases Acts, containing among other clauses the following :—

I.—That as we have endured syphilis in its worst form for centuries, without legislative interference, and that as it has with each succeeding decade become more readily amenable to treatment, very much diminished in frequency, and so much milder in form, that we can scarcely recognise it as the disease described by our forefathers ; and that, as gonorrhœa and non-infecting sores—comparatively unimportant, local, and non-constitutional affections—have also become less frequent, we consider that such a harsh, unconstitutional, un-English, and unjust measure is less to be defended on the ground of expediency and necessity at the present time than during any former period of our history.

II.—We are unanimously of opinion, which is fully borne out by the results of our practice, that the great majority of cases of syphilis are readily cured, and that when cured, the offspring are healthy and free from taint,* and we entirely concur in the opinions expressed by Mr. Skey on this point—which are as follows, given in evidence before the Lords' Committee :—

After remarking that the association for extending the act had largely overcharged the horrors of the disease; he further remarks : "The public mind is alarmed; it has been colored too highly; the disease is by no means so common or so universal; and I have had an opportunity to-day of communicating with several leading members in the profession, at the College of Surgeons, and we are all of the same opinion that the evil is not by any means so large as has been represented. I think if you took the impression of any individual on reading the reports of the Association for extending the Acts, you would infer an extent of syphilis in society far beyond the truth, very decidedly beyond the truth! it is not so common, it is not so severe." The above petition and protest has also been signed by thirty-five out of thirty-seven medical practitioners in Dudley, and nineteen out of twenty-two in Scarborough. These are the only towns where an expression of professional opinion has been elicited after a due discussion of the question, and there is no doubt that the good sense and good feeling of the profession, if fairly tested, would lead to the adoption of similar views by the great majority of our *confreres*.

* Ricord says that treatment in an enormous majority of cases succeeds in literally curing syphilis,—indeed syphilis is capable of spontaneous cure. (See Lancereaux, vol. ii. p. 304.)

If syphilis were the terrible, loathsome, and fatal malady described,* is it possible to conceive that physicians and surgeons of greatest experience in the treatment of these affections, and with a full knowledge of their effects, would willingly subject themselves to experiment by inoculating the disease upon their own persons, and on the bodies of others free from taint, and that without their knowledge or consent; and yet the former is frequently, the latter occasionally done. One of my acquaintances in Paris covered his arm with chancres merely to study some points in their nature and pathology. Auzias Turenne inoculated himself over and over again. Standard works on these affections almost without exception contain records of similar experiments; (for a record of 23 cases of inoculation of healthy persons for experiment, see Lancereaux, vol. ii. p. 220) and yet, in the face of these irrefutable facts, we are assured by the association for extending this act to the civil population that “*The venereal disease* (mark the term) is a disease of the gravest character, constantly transmitted from parent to offspring.” One hardly knows how to characterise this statement. Venereal disease, as the statistics of the association show, includes gonorrhœa and non-infecting sores, affections entirely local, and to characterise them as diseases of the gravest character is calculated to grossly mislead the public. Moreover, even limiting the term, as it ought to be limited, to syphilis, the statement is *untrue*. There is no disease whatever of venereal origin that is constantly transmitted from parent to offspring, and it is much to be regretted that the association in question should ever have sanctioned such unwarrantable assertions. But we are told this disease affects innocent children.† No doubt this is sometimes the case, but it is only exceptionally that it occurs; in fact, there is abundant evidence to show that if intercourse were interdicted during the short period during which the constitutional symptoms are actively mani-

* Let me call attention to the very significant fact that the directors of insurance offices do not consider the disease of sufficient importance to include it in their list of queries addressed to persons about to insure. Gout, rheumatism, cancer, tumours, and other trivial affections are included, but I do not find “Have you had syphilis?” addressed to the proposers.—*Verbum sap.*

† Dr. F. Weber, of St. Petersburg, who had for four years the direction of the wards set apart for patients affected with venereal disease in that city, conducted a series of investigations with a view of ascertaining how far syphilis acts upon the fœtus. Forty pregnant women suffering from syphilis (the Contagious Diseases Act, in force there, does not seem to have prevented *their* infection) were the subjects of the observation. Out of these forty, confinement was premature in only four, and two of these four were, he considered, due to intercurrent causes. After a careful comparison with cases of pregnancy in the general wards of the hospital, he comes to the conclusion “that syphilis has, of *all affections*, the least amount of influence in causing premature births.” (See *Lancet*, vol. ii, 1869.)

fested that the offspring of infected persons would escape. Mr. Acton, in his work on "Diseases of the Urinary and Generative Organs," p. 625, says: "I must still insist that a male *will not propagate unhealthy children*, unless he or his wife *is suffering*, or has lately suffered, *under secondary or primary disease*. In all the cases I have witnessed of infantile syphilis such has been the case. Lancereaux and all other eminent authorities bear out this statement, in spite of one or two doubtful exceptional cases; and Mr. Simon, in his report to the Privy Council in reference to the same point, remarks: "It may also be anticipated that the greatly improved knowledge which late years have given to the medical profession with regard to the venereal contagia will spread, and not very slowly spread through the minds of the general public, and will soon reduce the number of those cases where infected men give syphilis to their wives and offspring."* Let me ask those of my medical brethren who may peruse these lines, ere they give in their adhesion to this horrible scheme for degrading Englishwomen, to recall how many of their patients and acquaintances, who have suffered some time or other from syphilis, are now in perfect health, and whose children are as sound and vigorous as the most anxious parent could desire.

In spite of these incontrovertible facts—and I appeal for testimony of their truth to numbers of men who have suffered from one or other form of these affections—we are assured by Miss Garrett and others

* As regards the civil population generally, we find the "Association for the Extension of the Contagious Diseases Act" setting forth the propositions that persons infected with venereal diseases are dangerous, and ought to be shut up; that common prostitutes should be subject to compulsory medical examination, and to detention if found diseased, and so long as they continue so; and, as a corollary, that hospital accommodation should be provided in order to carry the scheme into effect. It may be mentioned in passing, that it is asserted that 18,000 prostitutes are practising in London, of whom one-third are diseased. Now say that accommodation is required for 3000 only, there must be about half a million spent in buildings, and about £100,000 per annum for maintenance, besides the salaries of the medical inspectors and staff of police. Where is this money to come from? From voluntary contributions? Impossible. From the proceeds of a rate or tax? There are plenty of people in arrears with rates and taxes already, and these persons are, as Mr. Simon says, not likely to consent "to see the prostitute kept in hospital at their expense for weeks or months, not necessarily from the exigencies of severe illness of her own, but essentially that she may be made clean for hire, lest any of her users should catch disease from her." "It must be admitted," says Mr. Simon, "that the living a loose life and catching disease are private voluntary acts, from which *no citizen has any right to call on the Government to protect him*." If it be argued that the evil does not stop with the first sufferer, but may spread to the innocent, the same may be said, in a degree, of every misdeed and misfortune. And to constitute grounds for State interference (assuming that such action could be effectual, which is denied) it ought to be shown that the damage caused by venereal disease is so gigantic as to overrule the sound general policy of non-interference, and that the good to be attained would be worth the cost. Mr. Simon distinctly gives it as his opinion that very exaggerated notions are current as to the diffusion and malignity of venereal diseases, and that the gain to be attained by the costly system of suppression would belong fundamentally to

that legislation is necessary, and that certain physicians consider syphilis a terrible disease ; an observation which, however true it may be of very few and exceptional cases, certainly cannot on any pretence be applied to the mass of cases which are lumped together (by the association for extending the act) under the head of contagious diseases. We are also asked to conclude that this affection is on the increase because the number of deaths registered as due to this cause has increased of late years. All this is easily explained. The deaths attributed to syphilis occur in infants, and it is well known in the profession that numerous affections are registered in the present day as due to that cause (often incorrectly) that formerly would never have been attributed to syphilis. As to the visceral lesions, which have lately been by some pathologists attributed to the same cause, it is a fact that they are often so attributed on very insufficient grounds, and, moreover, they are so extremely rare as to be of but slight practical import. I copy the following from the leading quarterly journal of medical science.

“ No doubt of late years our acquaintance with the later results of prolonged constitutional syphilis has been vastly extended, and we have come to recognise organic conditions as syphilitic, which formerly would have been differently grouped. Yet can it be affirmed that any very large proportion of adult deaths or disabilities is distinctly and unquestionably due to those deep-seated manifestations of chronic syphilis ? We ask, what statistical proof is afforded by those who dwell in argument upon this character of the disease ? Again, it is true that the course of some disorders is unfavourably influenced

those branches of venereal disease which do not produce permanent infection, such as soft chancre, or pseudo-syphilis, and gonorrhœa. With regard to the prevalence of true syphilis, and to its consequences, secondary or hereditary, Mr. Simon has taken steps to show the fallacy of popular statistics. He has availed himself of the services of Mr. Wagstaffe to count the patients at certain Hospitals and Dispensaries, and the results differ widely from the romantic estimates of the “ Association ” and of the *Westminster Review*. Whereas it is stated by the “ Association ” that from one-fifth to one-third of the sick poor are suffering from “ contagious disease of the gravest character, constantly transmitted from parent to offspring,” whilst the *Westminster Review* fills a page with frightful, but not fairly drawn figures, Mr. Wagstaffe quietly reduces the total per centage of *all* venereal disease among the whole population that seeks gratuitous relief from hospitals, dispensaries, and workhouses to 7 per cent., of which only about one-half are syphilitic. Mr. Wagstaffe’s observations are founded on 13,000 cases, being about one-fourth of the sick poor population during one week in London. We fully concur in Mr. Simon’s observations, that taking *syphilis* by itself, the detection is often so difficult, the proof of infection by a given person so slight, that it will evade any ordinary organisation. We shall have done enough if we have induced our readers to pause before giving in their adhesion to this latest scheme of meddlesome philanthropy. The letter of our surgical correspondent from Paris in this number of the *Medical Times and Gazette* shows that, as regards a civil population, the great source of disease is not the public women, but the clandestine prostitutes, who evade all inspection, and *will continue to do so*. (*Medical Times and Gazette*, September 25, 1869.)

by the syphilitic taint, that syphilis may evoke the manifestations of scrofulous or of a tubercular diathesis, but it by no means is to be accepted as proved at present, that it can engender these diseases either in the individual or his offspring, or that it is, by any period of incubation or any modification of hereditariness, capable of transmutation into them. The amount of nonsense written upon this and allied subjects, is most deplorable. To those who believe in such transmutations we would commend, for their peace of mind, the perusal of Lancereaux's remarks "on the influence of syphilis on other diseases." They may probably find some public compensation made by syphilis in the opinion expressed by some authors, that syphilis is actually a preservative against the operations of *some morbid causes*, and so against some other diseases. We must call upon them to investigate the question and to strike the balance of public damage, before they invoke so doubtful an averment in aid of their appeal for legislative interference. But recourse has been had to hospital statistics. How can hospital statistics assist us to discover the amount of mischief effected by syphilis on our population? What we want to discover is the proportion of our population suffering directly or indirectly from this cause. At the best, hospital statistics can only tell us of the proportion of sick persons whose illness is attributable to this cause—and, indeed, not even this accurately, for it can only tell us of a certain class of our *population more liable than any other thus to suffer*, and of these only of such as apply to hospitals for relief. But no satisfactory statistics even of this character have yet been put forward by the promoters of the extension of the Act of 1866 to the civil population. They announce—and make the most of the announcement—that, from inquiries which have been instituted, from one third to one fifth of the surgical out-patients of our general hospitals in London suffer from venereal disease, but then they do not tell what proportion these bear to *all the out-patients applying*, nor do they limit their figures, as we hold they ought to be *limited, to true syphilis*. We are at a loss also as to the assistance our inquiry is to receive from the records of ophthalmic hospitals. No one who is acquainted with syphilis is ignorant that the eye is one of the most common seats elected by that disease for its constitutional manifestation, or would express or feel any wonder at the proportion of syphilitic cases which a special hospital of this kind admits. Even if the statistics afforded were unquestionable, we should be no nearer the solution of the question we want answered. Apart from the fault of grouping all venereal diseases together, as proper matter for state intervention, *grave doubt has been thrown upon the statistics*, such as they are, which the associa-

tion parades. The medical officer of the Privy Council has taken some pains to test their accuracy. At the Children's Hospital, in Great Ormond Street, he finds, on inquiry, that of 118,590 children of the poor treated there during *the last ten years for all sorts of diseases*, the proportion recorded to have been syphilitic has *only been* $1\frac{1}{2}$ per cent. From a very careful investigation conducted by Mr. W. W. Wagstaffe, who visited for this purpose several of the largest general hospitals and dispensaries in London, it appears that, of 9363 out-patients in all departments of these charitable institutions, only 8.71 per cent. were affected with venereal diseases of any kind, and only 4.21 with syphilis, the remainder being mostly cases of gonorrhœa. Mr. Wagstaffe extended his inquiry to the in-patients treated in hospitals, workhouse infirmaries, and by the parochial out-of-door surgeons, with the result 'that 6.92 will probably represent the per-centage of the sick poor population affected with some form of venereal disease,' of which about half, or $3\frac{1}{2}$ per cent., would be infecting syphilis: (only a proportion of these even would be constitutionally affected.) SURELY 455 PERSONS SUFFERING FROM TRUE SYPHILIS IN ONE FORM OR ANOTHER, IN A POOR POPULATION OF A MILLION AND A HALF, SUCH AS THAT WHICH SEEKS GRATUITOUS MEDICAL AID IN OUR LONDON POPULATION CANNOT BE HELD TO BE A PROPORTION SO LARGE AS TO CALL FOR EXCEPTIONAL ACTION ON THE PART OF ANY GOVERNMENT. Mr. Simon adds, 'it must be remembered that London, probably, illustrates *the utmost dimensions which the evil can attain in this country.*'"—*British and Foreign Medico-Chirurgical Review*, Jan. 1870.

As to inherited syphilis, authorities are not agreed as to what affections are due to this cause. It is well known that Professor Von Græfe, the eminent ophthalmic surgeon of Berlin, dissents from Mr. Hutchinson's conclusions as to the various affections which the latter gentleman has attributed to syphilis, as do other practical physicians, some of whom were examined before the Venereal Commission. (See Dr. Willshire's evidence, and others.) Space will not admit of more than an allusion to these facts. Though I cannot dismiss the subject of syphilis without protesting against legislation founded on the shifting sands of mere medical theory or opinion; as also, in the language of the reviewer just quoted, against the reckless diffusion of statements as scientific truths, which are even now not matter of agreement between earnest and truthful scientific men.

I think I have said and quoted enough to show that syphilis, the only constitutional venereal affection, is not the awful disease that many suppose, and that,—although I am not at all disposed to deny that it is in some cases a serious malady, a cause of relapsing illness, and detriment to offspring,—it is evident that its extent and ravages are not

what they have been represented, or such as to call for the costly and extremely repugnant efforts at repression which the advocates of the Contagious Diseases Acts are seeking to force upon us. Moreover, we must not forget that the preceding observations apply only to the worst form of venereal infection, and one, at the same time, the most rare; in fact, syphilis forms but a fractional proportion of the mass of cases which are classed together under the title of contagious diseases. Some physicians have estimated this proportion as one in twenty, (see *Medical Times*, January 8, 1870) but Dr. Balfour, head of the statistical branch of the army medical department, stated in his evidence before the Parliamentary Committee, that one person in ten affected with venereal disease would probably suffer from constitutional infection (syphilis). There is no doubt this is a high estimate; but, assuming that it is correct, we should find that in ten cases of venereal disease, five would suffer from gonorrhœa and five from sores, but only one-fifth of the sores are syphilitic or ever affect the constitution, a fact definitely acknowledged by the unanimous conclusion of the Venereal Commission appointed to consider the subject in 1864.* Thus in one thousand cases of venereal disease, we should have one hundred cases of syphilis, but only five or one-half per cent. of these (see Fournier, quoted p. 9) would be seriously affected.†

As to the great mass of cases of venereal disease, (nine-tenths at least), all of which come under the head of gonorrhœa or non-infecting sores, it is an undeniable fact that, inasmuch as they do not affect the constitution, poison the blood, or even, in the vast majority of cases, seriously inconvenience the individual, they are unimportant and cannot on any plea be considered matters of State concern. Dr. Balfour, in the course of his examination before the Parliamentary

* The Venereal Commission, like all other commissions appointed to consider this subject, make the most of the disease. Dr. Balfour stated that one person only in ten of those affected with sores would suffer from constitutional infection; and Mr. Acton, wishing to call attention to the extreme virulence of a certain epidemic of sores, said one man in eight became constitutionally infected. The same gentleman further remarks, when speaking of the supposed influence of mercury in preventing constitutional infection, "*in nine cases out of ten sores are not followed by constitutional infection, whether mercury be given or not.*"—p. 396.

† I find from conversation with Dr. Balfour, that he was in his reply alluding to sores only; and I have assumed that venereal sores are as frequent as gonorrhœa. The fact being, so far as my experience goes, that cases of gonorrhœa are greatly in excess of the venereal sores, at least two to one: half the above estimate, or $\frac{1}{4}$ per cent. therefore would probably be nearer, if not still in excess of the truth; *i.e.*, of 400 persons who wilfully contracted venereal disease, one only would be seriously damaged in life, limb, or constitution. In fact there are very few diseases of any importance—scarlet fever, for instance—that do not cause more devastation in one year than syphilis in fifty.

Committee, remarked, "If you are legislating for gonorrhœa or non-infecting sores, I advise you to let this matter alone. I do not think that checking disease that does not produce constitutional symptoms, is a point of importance. It would not as a simple financial question be worth while to legislate for disease that does not produce constitutional symptoms." There is no doubt that he was right, and even if it were possible to check the dissemination of these comparatively mild affections by attempts at police control, I question, taking a large view of the subject, whether it would be sound policy to do so. Over and over again do we hear patients affected by these trivial maladies exclaim, "Once let me get out of this, and they won't catch me again." And there is no doubt whatever that the fear of contagion acts as the most powerful known check upon indiscriminate intercourse, and that the fright and annoyance occasioned by these comparatively slight maladies has been the means of preventing thousands from habitually incurring risks which must otherwise, in the course of time, have inevitably eventuated in an attack of true syphilis.

I have thus by an array of facts which cannot be controverted, and by quotations from the very highest authorities demonstrated—First: that contagious diseases, of venereal origin, have for years prior to the enactment of the Contagious Diseases Acts been satisfactorily declining both in extent and virulence, both in the army and out of it. Second: that syphilis, the only constitutional malady, and only contagious disease of real importance, is neither so prevalent or so malignant as has been represented, and that it forms but a small fractional proportion of the cases which have all been classed together as contagious diseases, as though they were equally important and equally malignant. Third: that gonorrhœa and soft sores, which form the great majority of such cases of venereal disease, are not only neither serious or disabling in themselves, but most powerful checks upon incontinence, and consequently valuable safeguards against the more subtle and dangerous poison of syphilis.

On these grounds I venture to answer Miss Garrett's question, "Is legislation necessary?" in the negative, and to affirm that those who have legalised prostitution in England, and sanctioned the perpetration of gross indecencies upon helpless women and *children*,* have done so in error and without any just plea of necessity for any law making on the subject.

* It is stated in Parliamentary evidence that children of eleven and women of seventy are subject to these outrages. One of the witnesses speaks of a child who was brought up by the police, who cried so like a child that he sent for her mother before examining her.

I have dwelt upon these facts simply because they are true, not because they are necessary to my argument, for as I shall now show—malignant or not, prevalent or not—the Contagious Diseases Acts fail utterly, not only to suppress disease, but that such legislation tends to increase it in its most dangerous form, and in fact to aggravate every evil both physical and moral.

Referring again with this object to Dr. Balfour's tables, I find that in Devonport and Plymouth there were in the year 1860, 440 cases of venereal disease per 1,000 of mean strength. In the year 1864, there were 289, a fall of 151 cases without legislation. The first Act came into force early in 1865, and the satisfactory decline previously noticed is checked, and, after three years (1865, 1866, and 1867) of higher figures, in 1868 the number of cases per 1000 of mean strength was brought no lower than 280, a fall of nine cases only in the four years, after enormous expense and unmitigated outrage.

In Chatham and Sheerness, during the year 1860, there were 351 cases per 1000 of mean strength. In 1865 the admissions were 292 per 1000, a reduction without any Act of 59 cases per 1000. Now Sheerness is constantly cited as affording conclusive evidence of the success of the system, yet for both these stations, in face of a reduction of 59 per 1000 without any Act, we find that after the introduction of the first Act in 1865, and of the second measure on November 6, 1866, a reduction of 17 only for both stations was effected in three years.

At Shorncliffe, during the year 1860, there were 327 cases per 1000 of mean strength. In the year 1867, there were 215 per 1000, a diminution, without any Act, of 112 cases. The Act came into operation in this place in July, 1868, and since then, so far from a diminution, we find the extraordinary increase of 82 per 1000 has taken place. The number of cases having risen in 1868 to 297.

At Woolwich, during the year 1860, there were 473 cases per 1000 of mean strength. In 1865 the number was reduced to 204 per 1000, a fall, without any interference, of 269. The Act came into operation in November, 1866, and since its introduction the diminution has been only 13 per 1000, the admissions during the year 1868 being 191.

At Aldershot, during the year 1860, the cases were 339 per 1000 of mean strength, in 1866 they were 233, a fall, without any Act, of 106. The Act came into force at Aldershot on April 12th, 1867, and since then the proportion has increased by four, the admissions in 1868 being 237.

At Portsmouth in 1860 the number of cases were 503 per 1000. In 1865 the number was reduced to 329, a fall, without any Act, of 174. In 1868 the admissions to hospital were 348, showing an increase of 19 cases per 1000, in face of a previous reduction of 174.

Thus, adding together the numbers expressive of the diminution of

disease at each of these six stations, from 1860 to the application of the first Act in each case, we find a TOTAL DIMINUTION OF 871 CASES PER 6000 WITHOUT LEGISLATION, while if we perform a similar operation for them AFTER THE APPLICATION OF THE ACTS, WE FIND AN AGGREGATE INCREASE OF 66 PER 6000;—in short, a slight diminution at three stations, a large increase at one, and a decided increase at two.

As the Acts were applied at different dates, the greatness of the contrast is not fully seen by adding the cases at each station together for each year; as, after 1865, the increase at the stations brought under the Act tends to balance the diminution at those still uninterfered with, yet the inefficiency of the Acts is clearly seen by the process. I append the total number of cases at the six stations named above, for each year from 1860 to 1868,—the proportion is per 6000—

Year	Cases per 6000	Total decrease	Year	Cases per 6000	Total decrease
1860	2433	—	1865	1720	713
1861	2368	65	1866	1673	760
1862	2040	393	1867	1698	735
1863	1865	568	1868	1628	805
1864	1729	704			

Nothing can more clearly show the baselessness of the vaunted utility of the Acts. In the four years from 1860 to 1864, a decrease of 704 cases per 6000 had taken place without any Acts. In the four years from 1864 to 1868, the diminution was only 101 per 6000, although every means had been employed to obtain the most favourable figures; and although the increase at the stations under the Acts was masked for several years by the diminution at those which were longest free from them.

The same result is brought out in whatever way the statistics of disease at these stations are regarded. If we take the two stations which have been under the system longest, where the Act of 1864 was applied immediately after it became law, we see the effect of the régime in a striking manner. Thus, at Devonport and Portsmouth combined, the number of cases per 2000 was, in 1860, 943; in 1864 it was 626, a diminution of 317 without any Act. In 1868 it was 628, an increase of 2 after four years' trial of the system under the most favourable conditions.

In the same way if we take the three stations last brought under the Acts, Shorncliffe, Woolwich, and Aldershot, the number at these three stations combined, in 1860, was 1139 per 3000; in 1866 it was 671, a diminution of 468, without any Acts; in 1868 it was 725, an increase of 54 in two years, under the regulation system.

These figures are taken from the War Office statistics, collected by Dr. Balfour, the Head of the Statistical Branch of the Army

Medical Department; they are official, the latest published, and the evidence they convey, the only reliable evidence available, is not to be rebutted by any *ad captandum vulgus* statements, such as are occasionally put forward by the promoters of the Contagious Diseases Acts. The police return, which is given in the Parliamentary Blue Books, is also conclusive as to the inefficiency of the system. Thus from the adoption of the Act of 1866, the annual ratio per cent of mean strength of men suffering from contagious diseases, rose in the following proportion:—

ANNUAL RATIO PER CENT. OF MEAN STRENGTH OF MEN ADMITTED
INTO HOSPITAL SUFFERING FROM CONTAGIOUS DISEASES:

STATIONS.	From adoption of Act of 1866 to March, 1868.	From April 1, 1868, to April 2, 1869.
Woolwich	17·989	18·45
Aldershot	18·773	20·35
Chatham	22·580	24·00
Sheerness	12·345	13·57
Portsmouth	20·657	21·67
Devonport	10·544	15·67
Average of all	17·522	19·59

The authors and promoters of the Contagious Diseases Acts explain away the evident increase of disease under the regulation system, as exhibited in the table just quoted, by telling us that these last police returns are vitiated by the fact that certain men have been treated on board ship; but there is no evidence to show how many or how few, if any, have been thus treated. The rise is remarkably uniform at

I extract the following from an able report on the Royal Albert Hospital, Devonport:—"A great many cases which are admitted as 'gonorrhœa' are really cases of chronic uterine discharge, with or without some abrasion of the os. Some of the women suffer from relapsing sores about the genitals, which are extremely difficult to cure. It seems that every woman, who, at the fortnightly examinations, is found to have a discharge from her vagina, is sent into hospital. It thus happens that many a woman is admitted over and over again, within a year or two, for 'gonorrhœa,' *when she really has only a comparatively harmless discharge from her uterus*, which is not permanently benefited by her stay in hospital. Again, every woman who has a sore of any kind (*e. g.* a fissure at the fourchette) *is sent in, and generally put down as 'syphilis,'* FOR WANT OF SOME OTHER HEADING, while, in many cases, her sore is healed by a few days of rest, and local applications. There is no choice between 'gonorrhœa' and 'syphilis,' or some combination of the two, with addition of 'secondary' or 'tertiary,' *at pleasure*. Two bad results follow from this want of a third class for non-specific cases. 1st. Many cases are returned as *specific*, which in all probability would not produce either gonorrhœa or syphilis in the male (that is, are not specific.) 2nd. A wide margin is here allowed for 'discretion' in the management of statistical returns, and *we can easily see how different results would be arrived at by men working in different directions*, when there are a number of items which must be put under one of two heads, WHILE THEY DO NOT PROPERLY BELONG TO EITHER."—*British Medical Journal*, Jan. 22, 1870.

each station, and it is clear that there are no ships at Aldershot. In spite of the preceding figures, which are simply copied from the blue books and tables appended to the printed evidence given before the Lords' and Commons' committees, and which any one can verify for himself, the advocates of the Acts persist in asserting that the sanitary results have been satisfactory; we are also told that the returns for 1869 are more favourable—if they show anything but an increase they must be considerably more favourable;—but in face of the manifest bias exhibited by the promoters of the Acts,* (and we must remember that opponents of the measure have no access to information and figures which are almost solely manipulated by those who are employed in carrying out its provisions), I must protest against any *ex parte* arguments, founded on evidence that is not given to the public. The evidence I have adduced is the latest, we have none other to refer to, and the facts are fully borne out by collateral authorities. The last published army medical report, for instance, deplores the inefficiency of the Act, and states distinctly that the increase of disease since its adoption has been 33 per 1000 of force. Mr. Simon, the medical officer of the Privy Council, tells us that he has looked in vain for evidence to show any diminution of the only venereal disease of consequence (syphilis); and Dr. Balfour told me on the 24th of May, 1870, that there was no evidence whatever at present to show that constitutional infection had either increased or diminished, though the number of sores since the last published returns were reduced. This is hardly to be wondered at, since the extraordinary increase at Shorncliffe under the Act was due to increase of this class of infection; the diminution may be due to a natural fall to an average level. Now it is a fact that sores that do not affect the constitution are of less consequence even than gonorrhœa. Mr. Skey says nothing can be more innocuous than the vast majority of these sores. Some of the sores (*balantis*) have been recently classed under gonorrhœa, and the diminution of these palpable manifestations is just what would have occurred without any Act, and even in spite of it, by the simple establishment of hospitals for women, which there is abundant evidence to show were filled for long periods by entirely voluntary patients. Moreover, these kind of sores are readily seen, while true syphilis can so rarely be detected in the female, even with the most careful vaginal examination, that it is in vain to attempt to keep it out. Even if disease had diminished, it would be simply monstrous to attribute it to the periodical examination of women, when the soldiers have been recently rigorously

* See the extraordinary comments appended by their authors to the official tables.

examined, secluded if diseased, supplied with lavatories, and all kinds of adjuvant expedients essayed.

The evidence already printed is conclusive proof that, on the whole, an increase instead of a diminution of disease has attended the operation of this law, in face of a progressive and satisfactory diminution prior to its adoption. There is every reason to believe, moreover, that these figures do not represent the sum total of increase, because, since the passing of the Act, the desire to secure favorable statistical returns has induced the promoters of the measure to adopt various adjuvant expedients, such as the establishment of lavatories, the periodical examinations of soldiers, and the restriction or confinement of those who are suffering from slight forms of venereal disease. As these affections do not require confinement, and the restrictions are irksome and irritating it appears that the soldiers have concealed these affections from the regimental surgeons, and applied for treatment to druggists in the neighbourhood. At Aldershot especially, the chemists have driven a roaring trade by supplying medicines to soldiers, who prefer to pay their charges to submitting to the restrictions an application to the regimental surgeon would involve.* The fact that they presented no evidence of sickness and were able to perform all the duties assigned to them, may be accepted as proof of my former statement that these affections are usually neither dangerous or even temporarily disabling. It is difficult to understand (when both men and women are restricted) how it is that the governmental superintendence of fornication should always prove, in a sanitary sense, such a miserable failure. Perhaps the increased incontinence, the natural result of the feeling of security, false though it be, which the periodical examination of women affords, and the multiplication of clandestine prostitutes, may account for it. However that may be, it

* The following is the evidence on this point extracted from the Parliamentary Blue Book report of the Commons' Committee. The Chairman asks Inspector Smith whether he had ground for believing that there were many diseased soldiers going about who had not given themselves up, and were not in hospital. He replies, "Yes, I have for a considerable time been impressed with the belief that many men are at large who are diseased." Inspector Smith induced one of the chemists to take the number of the men whom he served with medicine for venereal disease, and handed in the report, which is as follows, to the Committee:—On Monday, 14th June, 1869, there were 16 soldiers applied for this purpose; on Tuesday, the 15th, there were 13; on Wednesday, the 16th, there were 17; on Thursday, the 17th, there were 18; on Friday, the 18th there were 11; on Saturday, the 19th, there were 23: the total being 98 in one week. There were four chemists at Aldershot, one other shop, the inspector thought, did an equal trade, and two others not quite so much. This would give an average of about 320 men in one week, at Aldershot alone, under treatment for ordinary venereal diseases, contracted under the protecting provisions of the Contagious Diseases Act, all of which cases are *excluded* from the statistics, which, in spite of all, show an *increase* of four per 1000 in face of a previous reduction prior to the adoption of the Act.

is a fact, and the experience in this country is completely borne out by that of others; for instance, Dr. Huet, First Physician to the Hospital in Amsterdam, published a paper in 1868, on the effects of governmental superintendence of prostitution upon venereal disease in the army. He got his information from the War Ministry, and gives a quantity of tables, but the most conclusive is that where he exhibits twenty-four cities and gives the number of venereal cases *during some years* before, and some years after, the introduction of laws on prostitution. In some cities there is an amelioration, but the total number is: before the introduction of ordinances, 1786 cases amongst 15,913 soldiers yearly; after the introduction, 2241 in 16,810; *i.e.*, before, 11·2 per cent.; after, 13·3 per cent.

A similar sequence of events has been noticed in our Indian presidencies. In Bengal, for instance, where the inhabitants are subjected to the Contagious Diseases Act, the report of the results of its operation until the end of 1868 is anything but encouraging; thus in 1867 the number of admissions per 1000 of the Bengal army, into hospital on account of these affections was 166, a number so much below the average of former years, that it is evident here again that the regulation has been enacted in the face of a most satisfactory decline in the per centage of cases. But in 1868, under the operation of this law, the number of admissions per 1000, rose to 199. *Thus*, in 1867, out of 38,784 soldiers, 5,764 were admitted from venereal disease, either in its primary or secondary form; whereas, in 1868, out of a strength of only 31,560 the admissions were no less than 6,282.

Similar evidence as to inefficiency is afforded by the report, just published, on the sanitary condition of Bombay, another Presidency which has been mysteriously subjected to these Acts.

The promoters of the Contagious Diseases Acts are compelled to admit that the results already obtained afford but feeble evidence of the benefits of the system. They aver, however, that the superintendence of fornication by governments has had the effect of diminishing these diseases among the *French* soldiers. That they have not diminished them among the Dutch soldiers is evidenced by the tables already quoted, and that the smaller number of French soldiers affected, as compared with the English, is apparent and not real, has been satisfactorily proved by "Justina," in her able reply to Miss Garrett's letter.

The original statement put forth on this subject by the authors of the Contagious Diseases Acts, and actually published as a serious fact in the report of the Lords' Committee (see blue book), was—that whereas one soldier in 56 only was affected in the Belgian army, and one in 33 in the French army, one in four of the Foot Guards stationed

in London was diseased. This statement constituted the *pièce de resistance* of Miss Garrett's letter, a composition which was very much belauded by journalists who ought to have been aware of the errors it contained, and which has avowedly been circulated by thousands by the association which has been formed for forcing this iniquitous measure upon the civil population. These letters have been forwarded to friends of my own within the last ten days, although the statements contained therein were proved to be entirely incorrect and groundless months ago. Surely those who have sown these false facts broadcast among the people, are bound in honour to send to the same persons "Justina's" reply, from which I extract the following:—

"Of the numerous arguments adduced by Miss Garrett in favour of the Contagious Diseases Acts there is one which has, I fear, seemed to the majority of your readers absolutely conclusive and unanswerable. She says the truth of the opinion that disease is much less prevalent on the Continent, where legislative measures for the sanitary control of prostitution are resorted to, than it is in England, 'is confirmed by comparing the proportion of the household troops invalided annually from this cause in London, Paris, and Brussels. The proportion is 1 in 4 in London, 1 in 33 at Paris, and 1 in 56 at Brussels.' The argument advanced in the shape of these statistics, or others substantially the same, is the stronghold, not only of Miss Garrett, but of nearly all advocates of the principles of the Contagious Diseases Acts; it is triumphantly appealed to as unanswerable by the most influential of the non-medical weekly journals, the *Saturday Review*, which adopts it from Mr. Acton, 'whose great continental experience renders him,' Miss Garrett assures you, 'the first English authority' on the subject. It must be admitted that this argument does look very strong indeed. Still, the cause which I advocate, the freedom of my sex from the possibility of personal violation at the suggestion of policemen, is so sacred that on behalf of this cause I shall venture, although a woman, to attack even that strongly fortified citadel. And, in the first place, I will give Miss Garrett the benefit of a correction in the statement of her argument. She speaks of the number of troops 'invalided annually;' the word 'invalided,' when used in the Report of the British Army Medical Department, means discharged from the service as unfit for duty. What she intended to say, or should have said, is 'admitted into hospital.' And now with respect to the argument itself. Miss Garrett's statements concerning the French and Belgian soldiers are so far from the truth that I am at a loss to conjecture what can have been the sources of her information. It seemed to me at first sight that perhaps in reference to the French army she had stated the ratio per 1000 of admissions to what are called 'divisional hospitals' only. But in these hospitals only the gravest forms of disease are treated. And in respect to venereal diseases only those cases which are constitutional or very severe are admitted, the slighter cases, including both forms of venereal disease and 'a large proportion of skin diseases, &c., being treated in the regimental infirmaries and in quarters (*a la chambre*.)' Until recently no record was published of the number of soldiers admitted into the regimental infirmaries or treated in quarter on account of the diseases in question: therefore the French statistical statements of the number of soldiers admitted to hospital for treatment of those diseases meant only the number of those admitted to the divisional hospitals, in which, as I have said, only those cases which are constitutional or very severe are treated. It will be understood at once that this number must be comparatively small, and might possibly be represented by Miss Garrett's figures; but no, for,

small as it is, even this number denotes the existence of a much larger amount of venereal disease in the French army than her statistical statement implies. According to her the proportion of French soldiers admitted annually is 1 in 33; but the actual proportion admitted into divisional hospital only, and on account of the *constitutional forms of venereal diseases only*, is nearly double that number: in 1862 it was 53 per 1000; and in 1865—the last year before the number of cases treated in barracks and in the regimental infirmaries was also given—it was 49·10 per 1000. But of course any inference based on a comparison of these larger numbers with the number of admissions of British soldiers is worse than worthless—it is positively and grossly misleading. ‘In the British army a soldier if unfit for duty by sickness of however trifling a description is taken into hospital for treatment;’ therefore the total number of cases treated in quarters and in the regimental infirmaries must be added to the number treated in the divisional hospitals of the French army, before it is possible to make an approximately fair comparison of the amount of venereal disease in the two armies. Until recently, as I have said, this was not possible; but the French statistical returns for 1866 now enable this to be done; and in that year the proportion of cases of venereal diseases recorded as treated was 113·5 per 1000, or 11·3 per cent., which is nearly 4 in 33, instead of 1 in 33 as stated by Miss Garrett.

“Miss Garrett’s statement that at Brussels only 1 soldier in 56 is affected with venereal disease is only a little more astonishing than are her French statistics just adverted to; but, happily, it can be very quickly disposed of. She gives no authority for it, and the valuable evidence adduced by the writer, whom she pronounces ‘the first English authority on such a point,’ directly contradicts it. The following information concerning the amount of disease in the Belgian army is taken from the tables supplied in the second edition of Mr. Acton’s work; and he is indebted for them, he says, to the Earl of Clarendon, who, when Secretary of State for Foreign Affairs, obtained them through H.M.’s Minister at Brussels. During the ten years ending 1867 the average number of troops in Brussels was 3340, and of these the average number affected each year was 371, or about 110 per 1000. During 1868 the number of cases treated at the military hospitals of Brussels was 333, and these formed 9 per cent. of the whole Brussels garrison. So that during the ten years ending 1867 more than 1 in 10, and during 1868 a little less than 1 in 10, of all the soldiers at Brussels were affected. I may add that of all the soldiers in Belgium during 1868, 90 per 1000 were thus disordered. So much for Miss Garrett’s statistics. (Those just quoted will not give the milder forms of venereal affections, which are readily concealed, and which Leon Lefort’s observations would tend to show are universal in Paris. See p. 48.) The garrisons of Belgium are, as a rule, I believe, stationary. Now it is well known that the movement of troops is always accompanied by a considerable increase of disease; and, as such movements seldom take place in Belgium, the developments of disease incidental to them are avoided. Again, a *rigorous medical inspection* of Belgian soldiers takes place *every week*, and this procedure cannot fail to contribute in a great degree to the early discovery of disease and to the prevention of its spread. By way of comment on the indirect effects of the Government control of prostitution in Belgium, I will add here a few words from Mr. Acton, a persistent advocate of the Contagious Diseases Acts:—‘Truth,’ he says, ‘compels me to avow my opinion that however much the virulence of venereal disease may be abated, and the health of the Brussels garrison been improved within twenty years, there is no marked improvement in the general tone of morals there.’ Indeed, as proved by indisputable evidence in the *Westminster Review*, No. 73, January 1870, marked deterioration, instead of marked improvement, has been steadily proceeding during that period.”—*Reply to Miss Garrett*. Tweedie, Strand. Price, 1s.

So much for the benefits that soldiers have derived, or are likely to derive, from the periodical instrumental violation of the women whom they seduce, debauch, and disease. It remains now to consider what would be the effects of the same system, if a powerful clique, organised for the purpose, should succeed in extending the operation of this law to what is called the civil population. In the first place, females only are subject to its provisions, not assuredly because they are the greater sinners, but because they are helpless and unable to protect themselves from outrages which paternal governments confessedly dare not attempt to perpetrate on men. This subjection of the weaker sex only to a sanitary law applicable to both, is, to my mind, a miracle of meanness. "It is saying little to say that thus to take advantage of woman's weakness is not manly,—it involves all of which a true man should be most deeply ashamed. This partial application of the law is, in truth, due to lack of that quality which gentlemen, as individuals, value above life."*

It is idle to attempt to screen this atrocious invasion of the sacred personal rights of women on the ground that they make a trade of their persons. There can be no trade without a buyer and seller;—if the trade itself be infamous, both are at least equally guilty, but in this case it is the demand that creates the supply, and the man is most to blame. Moreover, as I have already proved, the law is not only applied to prostitutes, but to women *suspected of incontinence*, who

* "The authors and defenders of the law, do not apply it to the guilty of their own sex, simply (by their own confession) because they have not the courage, and as it stands, it is an exercise of might in utter disregard of right and justice, of which every true man should feel deeply ashamed."—*Aberdeen Free Press*.

I extract the following from an excellent letter by Dr. Chapman, published in the *Lancet*, of June 18th, 1870:—"And now a few words respecting Mons. Le Fort's statement, that 'in 1866 there were 97 venereal parients in every 1000 men' of the French army. He gives the *effective* force of that army as 336,233 men, among whom, as he says, there were 32,636 venereal patients. But in order to make a fair comparison of the number of admissions to hospital of French soldiers on account of venereal disease with the number of admissions of soldiers in the *United Kingdom* similarly affected, the French army of the *interior* ought alone to be considered, and the ratio of admissions ought to be calculated with reference, not to the 'effective' strength, but to the number present; for a large number of the French soldiers are constantly absent on leave. Now, in 1866 the number present was 229,761, and of these the number of admissions to hospital on account of venereal disease was 26,082, which is at the rate of 113·5 per 1000. This ratio represents the full advantage derived by French soldiers from the police medicale in full force in France, there being in Paris 806 beds specially appropriated to venereal patients, and all the general hospitals freely open to them meanwhile! I do not think this, even considered by itself, is a result for the promoters of the Contagious Diseases Acts to boast of; but when it is borne in mind how enormous has been the development of clandestine prostitution, and therefore of venereal disease secluded from observation among the civil population, in order to get that result, it will appear, I think, to impartial judges to be an inexpressibly costly one, and I hope and believe that Englishmen will decide that a like result is far too costly for them to purchase at a similar price.

surely find their *just counterparts* in men *suspected of incontinence*. But, throwing aside all moral and manly considerations, and ignoring for the moment all sense of right and wrong, what a monstrous absurdity does it not still seem to attempt to check disease common to, and propagated by, both sexes, by restricting one only. As well might we attempt to stop a river in its course by damming it half way across; to stamp out the cattle plague by immolating females only; or to arrest the spread of scarlet fever by secluding girls, and permitting the boys to communicate infection. Women suspected of incontinence by policemen, have been insolently termed the seed beds of disease; and a reason for the enactment of this law, as we have been informed by Mr. Acton, is that one man in four belonging to the Foot Guards in London is said to be infected. Now, this is exactly the proportion in which the Association for extending the Act assert that the prostitutes of London are affected, and I should like to know which of the two—prostitutes or Foot Guards—is the most serious and dangerous source of disease. The prostitute, to whom men alone deliberately resort of their own free will, with their eyes open, well aware of the risks they incur, able to secure and not ashamed to apply for medical aid in case of infection; or the handsome, swaggering soldier, who supplements his miserable pay by incursions into the civilian's kitchen, and spreads disease among an unwary class who are not vicious, but deceived, seduced, and debauched by the very men for whose protection they are (wherever this law is in force) subjected to the grossest outrages? Mr. Acton says, in a letter to the *Medical Press and Circular*, "that unless the soldiers are carefully inspected and secluded, we cannot expect any benefit from the Contagious Diseases Acts." He does not propose to apply it to male civilians at all, and yet expects benefit from the extension of its disgusting provisions to the civil population.

One argument advanced in favour of the Act is, that prostitutes will infect several men, but they would not do so if they had hospitals where they could be treated, on application, when diseased. Moreover, the more they are periodically inspected, as I shall show directly, the more men (lured by the false security) do they infect. Besides, the argument, such as it is, applies with greater force against men than against women. When in Utrecht, last June, I remarked some cases of inherited syphilis among the children attending the Ophthalmic Clinique, and Dr. Snellen told me that the Contagious

* Dr. Barr, when asked what class of women were brought under the operation of the Act by the police, replies: "Milliners and dress makers, labourers' wives, the wives of small tradesmen, and domestic servants, of course."—See *Appendix, Part I*,

Diseases Act which is in force there was powerless to prevent it. He said, "a couple of drunken sailors will infect twenty women in a week." Mr. Berkeley Hill, when examined before the Lords' Committee, remarked, in answer to Viscount Templeton (who had enquired whether he was aware that much disease was imported from abroad): "I cannot tell exactly; but last summer there was a congress of medical men at Paris, and one section was devoted to the discussion of the question of the importation of contagious diseases; and it was tolerably well shown, I think, that the migration of sailors particularly, because they are a very infected class of men, is constantly carrying the disease from one port to another, and of course when it reaches one port, and the women of that port, it spreads from them to the townspeople, and from the townspeople throughout the neighbourhood." Further, he remarks: "Sailors and seafaring population are a very immoral set of people, and the disease is very rife among them. They are much infected with disease, and they are great spreaders of disease."

Dr. Barr says, in answer to Captain Vivian—(query 609): "The inspector of police considers that there are more diseased soldiers loose than are absolutely in the hospital." "Of course," he adds, "one really has proofs of it. About three weeks since (and similar instances are common enough) I discharged two young women after some three weeks' detention for mild gonorrhœal affection. In ten days I was forced to detain them both again with recent contagious sores." They had been contaminated by soldiers not on the sick list, not in hospital, and not included in the returns. He is further asked: "When a new regiment comes into camp, the men are examined, are they not?"—and replies: "They are, and the result is very speedily seen. Out of one regiment which, I think, came up from Devonport [note, from one of the districts where the *Act was in operation*] two or three months ago, on examination they were forced to *detain about forty men* in hospital the first week, and in the course of the first month after their being there, there was a large number." This shows that the men constantly infect the women; that favourable returns as to the success of the Act cannot be depended on; and that, moreover, there are, in districts under the operation of the Act, a number of men diseased who are not reported or included in the returns.

Mr. Romaine, when examined by Viscount Lifford—(query 457)—says: "In one month there was an increase of disease, which was accounted for by a number of soldiers coming in; they brought disease with them, and diseased the women." He further remarks—(query 464): "There was an increase of disease when ships arrived at any of those stations from abroad or other ports. The Lords Com-

missioners of the Admiralty have received complaints from places where her Majesty's ships are stationed, that the venereal disease is greatly increased where leave is granted to the crews; this is chiefly in consequence of the folly of the men, who, knowing themselves to be diseased, yet improperly conceal the fact."

Mr. Thomas Woollcombe is asked by Viscount Templeton—(query 567): "Do you believe that much disease is introduced by merchant seamen?" "Yes, I think very extensively;" and further, he remarks that "it would be much more beneficial to examine seamen *than to extend the Act.*" He then quotes a French writer, who remarks upon "the frightful mass of contagion which the men bring;" and adds, "I am quite certain of this, that the number of mercantile seamen who are discharged in our large seaports do spread an amount of disease which is very frightful to contemplate." He further shows that when discharged on account of disease, these men remain in port, permanent sources of infection. Earl de Grey—(query 678)—remarks to Mr. Paget: "We have had very strong evidence that when a regiment arrives, or a ship comes into port, there is at once an increase of disease among the women." Mr. Veasey remarks, in answer to Viscount Lifford, "The disease has not been met at Aldershot by the hospital, because disease will break out when fresh troops arrive."

Viscount Templeton, in his examination of Sir H. Storks, remarks—(query 256): "There must be a great deal of disease imported by traders, or by regiments coming into a place;" and Sir H. Storks answers: "Yes, certainly. I found, at Corfu, when a foreign man-of-war came in, disease increased, and we had more women in hospital. In proof of the above circumstances, I have only to state the fact, which is to be observed at this very moment, in the wards of the central hospital of the island, where no less than fifteen patients (seamen) are under treatment for *syphilitic* affections of various forms contracted in the town of *Brest.*" The reader must not forget that the town of Brest is one of the French ports where the Contagious Diseases Act is enforced with great severity, so much so that, as M. Daubié remarks, female servants are enrolled as common prostitutes;* or fail to note that *syphilis*, the worst form of venereal disease, is the disease imported. Can anything be more conclusive as to the folly and inefficacy of the system?

Mr. Berkeley Hill says: "Troops arriving from other stations constantly bring fresh disease to Plymouth. One day last summer the police inspector, on visiting the military hospital, found thirteen men in the wards with venereal disease, recently arrived at Plymouth.

* See *Appendix*, Part I.

Twelve belonged to the depôt sent from Chatham (a station where the Act is in force); the men brought disease with them. The inspector then bethought him of looking up the women in brothels frequented by this regiment. He soon discovered that a *large number* of women had suddenly become diseased." I have before me a return of the entry of troops into Plymouth garrison since January, 1865, to November, 1867, and also a chart of the fluctuations in the number of diseased soldiers per 1,000 of the garrison since April, 1865, to December, 1867. In 1865, the number stood at 18; in May and June a regiment arrived, its depôt from Colchester and the main body from India, both stations where the Act is in force. In three months the number rose steadily to 34, again falling to 23 in July, when no troops arrived. On the 4th of August, five companies of infantry arrived from Aldershot (where the Act is in force), and the number reached 34 a second time. Then a steady fall set in through September and October down to 12 in November. On the 21st December a detachment arrived from foreign service, the remainder of the regiment, its depôt, coming from Chatham (where the Act is in force) joined it in January, 1866. Through February and March the entries rose to 27; through April, May, June, and July, the line sank to 20, though three batteries of Artillery came in from Bristol and Pembroke (where the Act is *not* in force), besides a regiment from Aldershot and India. In August *no troops*, and the wave line fell to 12. On the first of September a regiment came from Aldershot (where the so-called stamping out process had been going on for some time), the wave rose at once to 21. After that time the line fell to 13 in October, and kept hovering between 11 and 12 during the winter, till March, 1867. No fresh troops entered the garrison after the first of September till the 23rd of February, when a depôt came from Dover (no Act there.) In March there was a slight rise. In April and May troops came from India, Portsmouth (under the Act), and Pembroke, the line rose rapidly through May, to 22 in June. In June no troops arrived, and the mark for July dropped two points. On the 26th July a depôt came from Chatham, (under the Act), when the wave mounted to the highest point since the operation of the Act, namely, 35 per 1000. This new arrival was the regiment that produced the *havoc* among the women. Since September no troops entered the garrison at Plymouth, till the 11th of November, and the line has continued falling to 22, its present level. The regiment which, on the 11th, would have created a similar disturbance to that of August and September, had not the authorities directed that the men should be examined before they were allowed to leave the barracks, this was done, and *nine found diseased!!* All this proves conclusively that it is the men who primarily infect

the women, and that the men, in whom disease is readily detected whenever they are carefully examined, and whose feelings would not be outraged by an examination which is accomplished without any operation or indecent exposure to one of an opposite sex, are the persons to be restricted. To show the vast importance of this remark, I must here call attention to the fact that true syphilis, the only disease of consequence, is readily detected in the male at a glance; while in the female it most constantly happens that the various local conditions that communicate syphilis escape observation, do what you may.

Mr. Romaine says, in answer to Dr. Brewer, "The arrival of a ship is the cause of an outbreak of disease. It was found in the South Seas that one of our vessels would go to an island in the Pacific, where disease had been *utterly unknown*, and you immediately had an outbreak of disease." *So that the visit of a man of war in one of those islands was a curse.*

Mr. Sloggett remarks—(query 57 Commons' Committee:) "Importation of disease is very largely due to merchant seamen, trawlers, homeward bound ships, and a large number of coasting vessels are very much infected with syphilis. An easterly wind in the Channel will throw a large number of ships into Plymouth, and there is immediately an outbreak of syphilis."

Mr. Parsons—(query 292)—says: "The disease is brought in by the ships," and remarks that "the coming in of the Channel squadron diseased so many women as to cause the average to rise to the full strength of the beds, while some patients could not be admitted for want of space." He further remarks: "If a sailor comes on shore for *two or three nights*, and has disease, he *does as much harm* as will counteract all the good that may be done otherwise"—(by the Act.) Of course this is true of all men, sailors or not, and yet the promoters of the law pretend to effect wonders by extending the Act to the civil population.

All this proves conclusively that it is the men who primarily infect the women, and not the women the men; and that it is the soldiers and sailors, who have sacrificed their liberty for a consideration, who ought to be inspected and restricted, and not free women who owe government no obligation, and are merely the victims of the men for whose benefit it is proposed to subject the women to the grossest and most indecent outrages. Indeed, we may almost say,—no soldiers, no sailors, no syphilis. In inland towns, where there are no garrisons and no ports, venereal diseases are extremely rare. Mr. Curvengen, who, in the interests of the Association for extending the Act, has applied for statistics to various towns, remarks in his evidence before the Lords' Committee: "In a great many hospitals in the smaller

towns *throughout the kingdom* they get few or no syphilitic cases." He says: "On asking how they accounted for that, I received this reply, 'The number of venereal cases treated here is very small indeed; primary sores and cases of gonorrhœa are very seldom seen; a certain class of practitioners, the quacks, get hold of them all.' This is the only explanation they can give, but the fact is that the quacks rarely see cases in inland towns. I have enquired carefully into this point in Nottingham and other towns, among the druggists and others, who are the persons that the hospital authorities believe treat these slight cases, since they do not apply to public institutions, and they have, without exception, signed a memorial against the Act which contains the following passage: 'Venereal diseases are diminishing, and have steadily diminished for many years past, as evidenced by the progressive decrease in the consumption of anti-venereal remedies; in fact, we do not sell a tithe or a fraction of the drugs used for such complaints, in comparison with the sale of similar remedies some years ago.' Some who used to deal largely in such remedies, assure me that it is not worth while to keep them now. The same evidence is afforded by the surgeons to the Workhouse, and other charitable institutions, and I have no doubt the observation will apply to all the small towns throughout the kingdom where there are no barracks or ports."

I think I have said and quoted quite enough to show that these enforced celibates* are as dangerous to the public health as prostitutes, and even in some respects more so, as they carry infection among an innocent and unsuspecting class of women who would never, of themselves, incur the risk which all men know they encounter in voluntarily seeking intercourse with women of the town. I have also demonstrated that a sanitary law applied to one sex only, with a view of checking disease propagated by both, and principally and in the first instance by the sex which is exempt, is a delusion and a snare—must necessarily be futile in good results—and assuredly fail in the attainment of the object in view.

The practice of periodical examination in the army was given up some years ago, on the ground that it destroyed the soldiers' self-respect, lowered the moral tone, and prevented the best men from enlisting. Now the examination of one man by another is accomplished at a glance; it is not necessary that a man should, as Professor Newman observes,

* Soldiers enlist about 18 or 20, to serve for ten years, when they are entitled to their discharge. Very few civilians marry before 28 or 30; they don't account this a great hardship, and there is no doubt that if soldiers were occupied instead of idle, there would be no necessity to maintain an army of prostitutes for their use and amusement.

“be laid out like a carcass for dissection,” or be subjected to a surgical instrumental introspection, which to women is not only revolting in the extreme, but in some instances, especially to the very young, actually and acutely painful, and to all depraving and demoralising to the last degree. One would naturally think that if the inspection of men by one of their own sex had the effect of debasing the soldiers and sailors, that the inspection of crowds of women, herded like cattle for the purpose, by men, would, *a fortiori*, have a similar effect upon women. We are told, however, with grim irony that the indecent personal exposure, and forced association with prostitutes, of milliners, dress makers, married women, children, and labourers’ wives* has an elevating influence; and that the deliberate destruction of every soft, womanly feeling in a large, much-to-be-pitied, and—according to the advocates of the Act—very necessary class, is calculated to promote the moral tone of society.

Dr. Balfour, one of the Venereal Commissioners of 1864, in his honourable and manly protest, says: “I cannot concur in the recommendation to introduce a system of weekly examination of all known prostitutes. I do not see how it could be done efficiently without adopting a system of registration, as in France. This would involve the legislative recognition of prostitution as a branch of industry.” He adds, our aim should be “to keep prostitution within limits, rather than to afford increased facilities for the promiscuous intercourse of the sexes, which seems an unavoidable result of such recognition.”

“The Committee, in enforcing their recommendation of a weekly examination of prostitutes, connect it with the question of the reformation and restoration to society of this class. That much may be done by judicious sympathy with the women in lock hospitals is a well-known fact, *but this may be equally accomplished without the aid of weekly inspections*. It will scarcely be suggested that the work of reformation is likely to be carried on by the examining surgeon or the superintendent of police”—a fact so obvious as to be scarcely worth remarking. Moreover, not only is it cruel and cowardly to subject women to a police terrorism and detestable investigations, in order to hold the debauchee unharmed, but, throwing aside all moral and righteous objections, it is impolitic and inexpedient in the highest degree, for various reasons which I shall now proceed to point out.

In the first place, I must call attention to the fact that, although they are “brought up by the police,” it is frequently impossible to examine the women, on account of their monthly illness. (I am told, nevertheless, that attempts are made to do this

* See *Appendix*, Part I.

on the advice of certain old women, who conduct a preliminary process, and hint that the girls, although poorly, "are not so very bad.") What is to be done with these girls suspected of incontinence (by men themselves, of course, models of chastity) and guilty of menstruating? Mr. Swain informs us that 52 women per week present themselves for examination in the condition referred to. Dr. Barr says, "There are a large number whom it is impossible to examine." Dr. Leonard tells us that 30 in one day, at one station only, were not inspected on this account. Another witness that 500 were not examined in one quarter, for this reason only; we also learn that the women paint themselves in order to avoid the hateful inspection. What is to be done in cases like these? The finest assemblage of gentlemen in the world has solved the knotty problem for us. THEY MUST EACH BE IMPRISONED FOR FIVE DAYS. Surely the wildest dream of the most compulsory fanatic that ever breathed, never anticipated a treat like this. The fact that the women are menstruating is presumptive proof that they are not prostitutes, since habitual prostitutes soon cease to menstruate. Let me quote the words by which women are condemned to imprisonment for being, after the manner of women, as God made them:—"Any woman who on attending for examination or being examined by the visiting surgeon, is found by him to be in such a condition that he cannot properly examine her, shall, if such surgeon has reasonable grounds for believing that she is affected with a contagious disease, be liable to be detained in a certified hospital, subject and according to the Contagious Diseases Acts, 1866 to 1869, until the visiting surgeon can properly examine her, so that she be not detained for a period exceeding five days." If the surgeon's suspicions prove correct she may be detained nine months; there is no going home to explain to parents, to say farewell to friends, or make arrangements about their little property or business matters; the police say, "Now we have got you, we will keep you;" and the certified hospital may be, and often is, a hundred or more miles away. Women are spirited off, and no one, as Mr. Alderman Rees, of Dover, tells us, knows where they are gone to. "Oh but," say the advocates of the Act, "the surgeon must have reasonable grounds for believing that the woman is diseased," than which nothing can be more absurd. Neither women or men bear about with them any evidence whatever of gonorrhœa, contagious sores, or primary syphilis, and if it is impossible to examine the genital organs there is no reasonable grounds for believing anything; moreover, the surgeon suspects they are all diseased, else why are they examined at all? surely not for amusement!

Not only is it frequently impossible to carry out these examinations,

but they are also in a great majority of instances both useless and misleading, as futile as they are filthy. No man living *can distinguish leucorrhœa or the whites*, to which a very large proportion of respectable women are subject, *from gonorrhœa, by far the most frequent form of venereal disease*; moreover, with regard to sores it is impossible to say, without inoculating the patient,—a procedure which not only takes time, but is frequently misleading and utterly unjustifiable—whether they are of venereal origin or not. So that respectable women may not only be falsely accused of prostitution, but unjustly condemned as suffering from venereal disease. In illustration of this fact see two cases recorded in the *Medical Mirror* of November 1, 1869. Not only are these conditions, common in respectable women, so like venereal diseases that no man can distinguish them, but it is an undoubted fact that women, absolutely and entirely healthy, may infect several men one after another. If this is true it can be of no use to examine them. Let us see. Dr. Barr says, in answer to Mr. Kinnaird: “A woman may have no disease herself and yet through her several men may get disease. I said just now that there is a paucity of prostitutes at Aldershot. Some of the women will have intercourse with 20, 22, or 23 men in one night. I always tell those women when they leave the hospital to use lotions and injections, and to do what they can to keep themselves clean”—(for the use of the soldiers). He adds: “A great number of them, before and after they have intercourse with soldiers, use their injections so that they may escape; while a number of those soldiers, *some being diseased*, closely following each other, having connection with them, by mediate contagion different affections (gonorrhœa, sores, and syphilis) are dispersed among them.” Here is evidence of the high moral tone developed under the Contagious Diseases Act, and also of the futility of examinations. Lancereaux says: “Indeed contagion from sexual intercourse is possible without either of the parties being diseased,” *i.e.*, a man may communicate it from previous tainted intercourse although not diseased himself, and the same with a woman. Calaneus writes that coition with a healthy woman who, has recently had connection with an infected man, will spread disease. Widermann, Thierry de Héry, Fernel, Ambrose Paré, are all agreed on this point, and G. Vella says: “I have known healthy women who have had connection with infected men, and who, not having contracted this disease, have nevertheless *transmitted* it to other men who had intercourse with them.” In short, it is an indisputable fact that women, absolutely healthy themselves, are frequently the means of spreading contagion. Not only, however, is contagion communicated in this way, but the very examinations themselves are, unquestionably, about

as certain a means of spreading disease from one woman to another as could have been devised.

Lord Clandeboye asks Sir W. Jenner whether syphilis can be communicated otherwise than in a normal manner, and mentions the case of a servant girl who contracted the disease from another person by using the same spoons and forks: and Sir W. Jenner replies that it might be communicated by various utensils, and by the use of towels.* Dr. Scott, of the Dumfries hospital, alluding to the venereal disease under the title by which it was known in Scotland many years ago as the sibbens, remarks: "That it is a disease that is easily spread by using *the same spoon* at meals; and accordingly *at harvest time, when a large number of extra hands were employed, we often found a whole district affected.*"

Lancereaux remarks: "Simple contact consequently suffices for contamination, and the latter may take place no matter in what manner the former occurred." Again: "Utensils of all kinds, especially linen or vaccination, may be the means of developing syphilis in children." He also mentions a fact detailed by Marc Widemann, in which a number of persons were infected by the use of cupping glasses. Quite recently, a case came under my own notice where disease was communicated by a bougie used by an eminent metropolitan surgeon. At the meeting of the Medical Society of the Hospitals of Paris, in September, 1861, a female patient who had been infected by the application of an eustachian catheter previously used for a syphilitic patient, was presented by Lallier, and at the following meeting, in October, *thirteen* cases of communication in the same manner, were quoted by various members.

Dr. Maurice Raynaud showed M. Lancereaux a similar case, and subsequently another was reported in the *Gazette Hebdomaire*; in a great number of these cases the syphilis assumed a severe form. Lancereaux proves that specula, syringes, and ordinary catheters have transmitted the poison, and observes a remark to which I would call the serious attention of those who deny that there is any danger in examining healthy and infected women in rapid succession with the same instrument, that the reason we do not hear more of this mode of contagion is "*on account of the seat of the evil.*" Lancereaux says: "Tobacco pipes frequently transmit the disease." Mr. Berkeley Hill says: "It is well known that catheters and other instruments have communicated the disease." Glass blowers frequently become infected

* One of the women who was sent to hospital on suspicion of disease under the Contagious Diseases Act complains that she contracted syphilis from the foul linen which she was ordered to wash when imprisoned in the lock.

by passing the tubes from mouth to mouth. At Rive de Gier, where there is a manufactory of glass, Dr. Niobis saw ten such cases, which were subsequently verified by Rollet, and Cullerier mentions that a lady contracted syphilis by tasting soup after her cook. Ricord mentions that a drop of syphilitic matter dissolved in half a pint of water, forms a solution any drop of which would suffice to inoculate the disease. Hospital authorities object to the admission of such cases, on account of the risk of contagion. Mr. Paget says he has known fifty medical men contract the disease in discharge of their duties; and Sir W. Jenner, referring to the same danger, says it is a wonder any of the medical men escape. (*I think it is a wonder any of the women escape.*) Mr. Syme, professor of clinical surgery in the University of Edinburgh, and certainly one of the most distinguished surgeons in Europe, says *there is no question* that disease is thus communicated, and that he had *repeatedly* met with men in whom the disease was distinctly traceable to females who had been contaminated “through the proceedings of accoucheurs who use specula, and are not careful in cleaning them.” It is useless to multiply such instances; enough has been said to prove that it is almost impossible to examine 150 women in an hour and a half (as is frequently done, according to Mr. Acton), many of whom, although capable of communicating the disease may appear quite healthy, without spreading infection from one woman to another. I insist upon the fact that this danger is too great and palpable to be passed over, and in face of the evidence of contamination by the eustachian catheter and other instruments, which for various reasons are much less likely to spread disease than the vaginal speculum, it is, in fact, simply ridiculous to do so. It has been said that we might obviate this risk by dipping the specula, after each inspection, into boiling water; but it is only since I pointed out the danger, that this has been proposed. Thousands of women are constantly being examined, and, so far as I can learn, the suggestion has never yet been adopted. Moreover, we must be content to look at things practically as they are, not as we would have them. Familiarity with such risks is very apt to breed carelessness. We are said to bear the misfortunes of other people with great fortitude. Examining surgeons, like other professional men, are apt to be behind time,—women, locked up for hours, get angry and impatient, “grinding their teeth with oaths,”—those absolutely healthy may still bear the poison about them,—the thorough cleansing of a vaginal speculum is a somewhat tedious task for a man in a hurry,—the very water used for the purpose may become a sink of contagion,—and the whole process, when most necessary, may seem a useless work of supererogation. Besides, we are assured by the best

authorities that it is necessary to use also anal and other instruments of the same description—mops, caustic holders, tongue depressors, &c. and including the signing of certificates, 150 women are, as Mr. Acton informs us in his evidence before the Lords' Committee, examined in two hours. Has any government on earth any right to subject healthy women, against their will, however mean and abject they may be, to a degrading and dangerous ordeal like this? I say, No! and so do many other surgeons of great experience in this special branch:—"We are of opinion that the perfunctory performance of the duty of examination, such as this routine must of necessity practically become, while leading to false conclusions, and frequently failing to detect disease, will almost certainly spread contagion from one female to another,—a risk that no healthy woman can be justly subjected to on any plea whatever." (*See Medical Protest.*)*

Not only does it frequently happen that, owing to natural causes, these examinations cannot be carried out; not only is it impossible to distinguish the most frequent form of venereal disease from affections to which a large proportion of respectable women are subject; not only are those examined exposed to the danger of infection; but—and here is the gravamen of my charge against these filthy perquisitions—they are positively useless for the detection of the only disease of venereal origin (true syphilis) that we have the slightest interest in checking, while the false security which they afford undoubtedly leads men—and especially married men—to contract disease, who would never otherwise have incurred the risk. I ask no man to accept my "*ipse dixit*" in this matter, but I do demand—what a large proportion of the press has persistently denied to scientific opponents of the Contagious Diseases Acts—a fair hearing, and a serious consideration of the following most important facts, which are conclusive proofs of the truth of my statement. I may mention that the authorities I shall quote are in entire accord with all other authorities on the subject. In short, no fact is better known or established among those who have devoted themselves to this branch of science, than that true syphilis in the female is so difficult of detection—it is so often impossible to detect the only venereal disease of importance—that the examinations must necessarily in a large number of cases be useless for the end proposed. To quote Mr. Acton, "Notwithstanding all assertions to the contrary, the best managed regulations cannot guarantee freedom from disease." If they cannot guarantee freedom from disease, surely must do they harm by warranting impunity when

* The highly contagious nature of true syphilis does not at all militate against the fact that it is, in the great majority of cases, a mild affection and easily cured.

there is no impunity. The editor of the *Medical Times and Gazette* says : " Putting aside all moral considerations, no woman should have a clean bill of health." Why not ? Surely if it were not for moral considerations, the government that goes to the trouble and expense of disinfecting prostitutes for the use of soldiers, would only be consistent in affording the soldiers evidence as to what women had undergone the process. But this must not be done ; on purely sanitary grounds they must not have a clean bill of health. Why ? Because it is so frequently impossible to say, by any mode of examination that may be devised, whether a woman is in a contagious condition or not !!! The same eminent authority, after remarking that " a surgeon might easily be led to discharge a woman quite capable of propagating disease under the impression that she was cured," says : " Still more *might be passed* without having anything noticeable beyond a slight uterine discharge, almost if not perfectly undistinguishable, from the healthy one, and *these may infect their paramours.*" Mr. Berkeley Hill says : " There is great difficulty in detecting disease, if it is the interest of the prostitute to conceal it, and that some disease must always escape detection." That is unquestioned ; but, unfortunately, the disease that escapes detection is precisely the only venereal disease of ulterior consequence, or which we have the slightest interest in checking. Dr. Aitken, who is well known as one of the most eminent of practical physicians, says in his work on the *Science of Medicine*, fifth edition, revised and published last year : " Medical inspections are formal and look useful, but *the infecting sore, the true syphilitic one, can rarely be detected in the female.*" In another part of this work he observes : " The syphilitic sore, when it does occur in women, is readily overlooked, even when searched for with great care, aided by a vaginal examination with the speculum." Mr. Simon, who is acknowledged to be one of the first pathologists in Europe, says : " The various local states which *most habitually* spread the infection of true syphilis are *constantly* overlooked in examinations *made expressly* for their discovery." I suppose no one will deny that these gentlemen have ample grounds for their assertions, and I submit that, to any candid mind, their evidence is conclusive of the question ; but, independent of opinion or weight of authority, the question has already been definitely settled by the indisputable logic of facts. Dr. Alfred Fournier, a great authority on this matter, who has succeeded M. Ricord as surgeon to the Hospital du Midi, the venereal hospital for males in Paris, has written a thesis on syphilitic contagion, and in conjunction with M. Puche, carefully traced the disease to its source in 873 cases. The result is contained in the accompanying table :—

Males infected by public prostitutes, registered and		
periodically examined	}	625
„ „ clandestine prostitutes		46
„ „ kept women, actresses, &c.		52
„ „ workwomen		100
„ „ servant women.....		26
„ „ married women		24
		<hr/>
		873

Thus, out of 873 cases coming promiscuously under the care of these gentlemen, 625 contracted syphilis under the temptation of a false security, from women registered by the police, carefully and frequently examined by the police surgeon, subject to most stringent and oppressive regulations, and warranted clean for safe usage by a kind and paternal government. This table of simple facts is alone sufficient to condemn utterly any attempt to introduce into this country similar futile and dangerous regulations. Dr. Vintras, in his evidence before the Venereal Commission, says, in confirmation of the above facts: “ You will find almost all chancres (the local sores that produce true syphilis) are, in Paris, derived from women who make prostitution their sole business,”—(and are consequently registered and subject to periodical examinations.)

Mr. Evans, who wrote an excellent work on venereal sores, remarks: “ That an altered secretion that cannot be detected is sufficient for the production of disease ;” adding that when he attended the examinations of 200 women of the lowest description, who were frequented by the soldiers belonging to the army of occupation at Valenciennes, that no disease could be detected in the women, *and yet the hospitals were filled by diseased soldiers infected by these very women.* He noticed exactly the same thing at Lille, and observes that *the condition that communicates disease, in the female, is only to be known by its effects ;* and says it is thus “ THAT GOVERNMENT REGULATIONS MADE FOR PREVENTING THE PROPAGATION OF VENEREAL DISEASES SO COMPLETELY FAIL IN THE ATTAINMENT OF THEIR OBJECT.”

If these things are true, what must we think of that sullen, dogged determination which certain gentlemen are exhibiting to extend such an utterly useless and shameful piece of legislation over the whole country? As to the truth of the assertion respecting the army of occupation at Valenciennes, I fortunately have had an opportunity of verifying the facts by several personal interviews with a gentleman who was present—I allude to Dr. Macloughlin; and as I am aware that, owing to that gentleman's peculiar views respecting the venereal disease, his assertions have not been allowed to have the weight and

serious consideration which they deserve, I will just state that Dr. Macloughlin entered the army as a surgeon in 1811. After the peace in 1814 he did duty at Fort Pitt hospital, Chatham; he was with his regiment in Paris in 1815, and there studied this peculiar form of disease. In 1816, he was on duty in the general hospital at Valenciennes, with the garrison of English troops; was personally acquainted with Mr. Evans, the author just quoted, and has assured me himself that it was strictly true—a fact which at that time surprised him immensely—that they could detect no disease in the women, although the hospitals were filled with soldiers who had contracted disease from these very women.* Struck by this remarkable fact, Dr. Macloughlin was induced, in subsequent private practice in Paris, whenever a gentleman applied to him suffering from syphilis, to ascertain from what person the disease had been contracted; and it was his regular practice, in company with the French police agents, to visit the brothels and find out the person who had communicated the disease. He told me that he took considerable trouble in this matter, and used, on each occasion, to give the police agent a napoleon, and the woman a napoleon. In all these cases the woman was submitted to careful examination by the police surgeon, himself, and others; and Dr. Macloughlin solemnly declares that “they were scarcely ever able to detect disease in the female,—that it was excessively rare for them to discover the source of infection in the female.” In one gentleman, where secondary symptoms of a severe type were developed very speedily after the primary symptoms—in a case pronounced to be unequivocal syphilis, by M. Biet and others—the only two women with whom the patient had ever had connection† were brought up, and repeatedly examined by five or six medical men, including the police surgeon, and not the slightest trace of disease could be detected in either of these women. Dr. Macloughlin practised for 27 years in Paris, and the constant recurrence of these cases led him at last to form the opinion that there was no such thing as a specific virus. Dr. Macloughlin had immense opportunities for studying the disease in Paris and elsewhere, and whatever we may think of his peculiar opinions, no one can deny that his testimony as to facts is thoroughly trustworthy and invaluable. Mr. Skey, in a letter written to Dr. Macloughlin, on May 19th, 1864, and referring to these facts, says: “I am convinced, in common with many sur-

* The reader will find similar facts detailed in *Hoopper's Medical Dictionary*.

† The gentleman in question was an American; fear of infection had prevented his indulging in intercourse until his arrival in Paris, when he immediately availed himself of the supposed security afforded by the regulation system, and contracted the worst form of venereal infection.

geons, that disease is not necessary to the same form of disease in the other sex, and that every variety of sore, and every form of purulent discharge, from the slightest to *the severest in intensity*, can be obtained from women who have not, in their own persons, indications of disease of any kind."

Do not these facts, as Professor Newman observes, totally uproot the very groundwork of the Act? Sir Henry Storks tells us that at Malta it frequently happened that women, denounced by soldiers as having infected them, were, on examination, found to be perfectly healthy, *i.e.*, no disease could be detected. The police agents employed under the Contagious Diseases Acts, at various stations in this country, assure us also, in their evidence before the Parliamentary Committees, that infected soldiers constantly denounced women as having diseased them, who on examination appeared quite healthy. Sir W. Lawrence states that he has examined women who had infected private patients of his (suffering from unequivocal syphilis), and has frequently been unable to trace any disease in the females from whom the sores had been contracted. In fact, the local manifestation of true syphilis so frequently escapes notice, that Clerc, one of the greatest authorities, failed to find it after most careful search in a considerable proportion of women who had recently contracted the disease. Mr. Busk states that some of the worst cases treated on board the *Dreadnought*, hospital ship, were contracted from women who, on examination, appeared to have little or nothing the matter with them. Mr. Langston Parker, of Birmingham, a great authority on these matters, says that syphilis is certainly communicated when it is impossible to detect any sores whatever; the late Mr. Hey, of Leeds, calls attention to the same fact: and Clerc quotes an instance of a prostitute who was repeatedly and carefully examined, and declared to be free from disease; she, however, infected several men, and on subsequent and careful examination, all that could be found was a slight muco-purulent discharge,—a condition common enough in respectable women, and stated by Mr. Hill to be almost universal among London prostitutes. M. de Meric says, in reference to this difficult point, that if all the uterine catarrhs are to be sequestered, it would be necessary to send to hospital nearly all the women, and yet "they may infect their paramours."* What, in the name of common sense, then, is the use of examining them? What can examiners do in such cases? They cannot seclude twenty or thirty thousand women in London alone, and yet it would be impossible for them to say whether it would be safe to have intercourse with them or not.

* See Note, p. 16, Part I.

Mr. Holmes Coote says: "The peculiar nature of the examining surgeons' employment is not the most ennobling, and must bring him into associations he would rather avoid. But it should be asked, are his duties of such a nature that he can faithfully discharge them? Can any man, *however experienced*, undertake to pronounce, after the most careful examination, that a public woman is sound? We fear not; and if his certificate is not trustworthy, and yet carries authority, to what unpleasant complications and unjust inferences may it not give rise." Is he to be liable to an action for damages? Exactly, when a father has contracted disease, and infected his wife and family, on the strength of a security so kindly provided by our paternal government, is he to have no remedy against the government or surgeon? Let me ask, of what value are the statistics which are paraded as to the number of diseased women at certain stations? when it is a solemn fact that no surgeon can say with certainty whether they are suffering from venereal disease or not. If 100 respectable women were called prostitutes for the nonce, and subjected to the examining surgeon's perquisitions, he would be certain to pronounce a number of them diseased; and *vice versa*, if 100 prostitutes *in a contagious condition* were similarly examined, a number would necessarily be passed as sound.

Mr. Hill states, "that great difficulty exists in deciding whether a particular discharge is likely to communicate disease." Again, "a patient is often very anxious to know if a discharge is contagious,—a question *most difficult to answer*. It may be mere mucus, and quite healthy in appearance, and yet retain its infectious qualities very strongly." The editor of the *Medical Times and Gazette*, in a recent article, says that the proof of *infection by syphilis* of a given person is *so slight*, that it will evade all ordinary organization. Again, he adds, slight forms of venereal disease need no specific pabulum, and the poison of syphilis is so insidious and lurks where least expected, that it is in vain to attempt to keep it out. The medical gentlemen resident in Nottingham have, in the protest previously alluded to, agreed to the following clause in reference to this point: "That as it is admitted by all competent authorities, not only to be difficult, but oftentimes impossible, to detect the infecting sore (the only form of disease likely to affect the constitution, and hence most important to discover) in the female, even with the most careful vaginal examination with the speculum, such examinations must not only be barren in results, but lead to false conclusions as to the safety of intercourse with such women."

I have heard medical gentlemen who have made themselves prominent as supporters of the Contagious Diseases Acts, evidently in entire

ignorance of such facts as I have quoted above, say: "Oh! we don't care for authorities; the system must do some good, or they would not carry it out abroad." The fact is, the authorities abroad would be very glad to shake off the odious and disgusting despotism, if they could. They have never dared to legalise it, and although the powers that be connive at the efforts of the police, no man has ever had the effrontery to stand up in the land of *liberté, égalité, and fraternité*, and publicly propose the enactment of one law for women and another for men, or to sanction the disgusting outrages which are the necessary accompaniment of the periodical examination of supposed prostitutes. That infamy has been reserved for England. Many of the most eminent physicians on the Continent are opposed to the system, because it entirely fails to attain the end in view; while those engaged in carrying it out, complain that the labours of Sisyphus are entailed upon them. I have it from one of the most experienced state examiners that the difficulty of detecting the condition that communicates true syphilis in the female is so great, that the examinations on the whole, by giving a false security, do more harm than good. Leon Lefort, of the Paris faculty, and physician to the Du Midi hospital, one of the greatest authorities on the subject, says that what with infection derived from *inspected and certified* women, and what with clandestine prostitution, "THE MEANS EMPLOYED AGAINST SYPHILIS IN PARIS AMOUNT TO NOTHING."—(See *Medical Times and Gazette*, Jan. 8th, 1870.) In the evidence given before the Parliamentary committees, one cannot help noticing a constant effort on the part of the examiners to elicit statements from the witnesses as to Englishmen and Americans taking syphilis to Paris. Now, Leon Lefort says, in reference to this point: "Paris is sufficiently rich in syphilitic virus not to need to borrow elsewhere. As to strangers, they certainly take away more than they bring." And in answer to the question—what is the quantity of syphilis in society in France, and how many people out of any 500 show any trace of it?"—he says: "If it were a question merely as to venereal diseases in general, we might say what Voltaire inscribed on the pedestal of a statue of Cupid—

‘ Qui que tu sois, voici ton maître ;
Il est, le fut, ou le doit être.’ ”

That is, in other words, every male contracts some form of venereal disease, sooner or later, under the beneficent provisions of the French Contagious Diseases Act,—a statement extremely well calculated to induce us to adopt a similar system in this country. He proposes as a remedy that women suspected of incontinence shall all be forced to live in licensed brothels—the most hopeless hells that can be con-

ceived: see *Part I.*, p. 19)—and that no man shall be admitted until the mistress of the house has carefully examined his genital organs. He adds: "The measures taken can never be of more than very limited efficiency;" and, evidently mindful of the disastrous effect of the false security, says: "*Announce loudly* that, aside from these conditions, the *authorities* are *not responsible*, and that street women are *not inspected*," a knowledge of which fact in England, at this present moment, *does more to keep venereal diseases at a minimum* than all the regulations, and all the wrong, cruelty, and injustice which has ever been perpetrated in the name of the administration in France for a century. Take the unavoidable inference from Lefort's quotation of Voltaire's rhyme, as to the prevalence of disease in Paris, with the proofs I have adduced as to its comparative rarity in England, and of which fact the following statement (made by the President of the Association of the Medical Officers of Health for London, Dr. Druitt) may be taken as an apt illustration,—“Speaking from thirty-nine years' experience, he was in a position to say that cases of syphilis in London *were rare* among the better classes, and *soon got over*,”—and then tell me what sense there is in attempting to introduce such a foul and disgusting system into England. The fact previously quoted as to proportion of sick poor affected—455 in a poor population of a million and a half (p. 20)—shows that the observation is true of all classes in this country.

I quote M. Lefort again (see *Medical Times*, September 25, 1869): “The inspections do not suffice. As it is, syphilis is increasing in Paris; not only because of the increase of clandestine prostitution, but also *because the examinations of the ‘filles publiques,’* the registered and periodically examined women, do not *answer their end*.” Lancereaux remarks (p. 298): “That the too great number of women, and the little time possible to devote to each, tend to render our sanitary measures, to a great extent, illusory.” He says: “That the women do not fail to remove by washing and injections the product of secretion indicative of contagious lesion, before coming to the examining house:” and adds: “Under these circumstances only a comparatively slight security is ever obtained.”* In fact all the authorities are unanimous as to the failure of the system, and all facts and statistics point in the same direction.

Ricord, Ratier, Sandouville, and Davila say the examinations, once a week or fortnight, are merely absurd, they must be instituted every three days; but Lancereaux adds, “*This interval is doubtless still too*

* The increased cleanliness of the women at our garrison towns, so loudly proclaimed as proof of the benefit of the Act, is evidently one of the reasons why the system is not efficacious.

long. The women must be examined every *two days at least*, and all that are suspected must be detained—(uterine catarrhs are universal, therefore all must be detained). Moreover, multiplying the visits is not enough; it is important to prevent deception, and to avoid everything which may render difficult the medical diagnosis, which purpose can only be effected by keeping the women *for some hours* in a *place devoted to that object.*” (See Lancereaux, vol. ii. p. 275). In fact they must be herded like cattle, in the interests of debauchery, in a *prison cell for hours*, every other day, and during the whole of that time be carefully watched by police spies to prevent any syringing or surreptitious wiping away of discharges. Nor is this all, worse remains to tell. Every existing shame and cruelty heaped upon these starving women, beset by bribes, must be increased a thousand-fold. An essential point, and one upon which Guichard and Davila have already insisted, is to examine not only the genital organs, but also the skin, the mouth, the throat, the anus, &c. “Since it has been admitted that secondary lesions are contagious, and that they produce infection more frequently perhaps than the primary lesion, *this examination has become indispensable.*” (See Lancereaux, vol. ii. p. 275). In another part of the same work the necessity of carefully *introspecting the anus*, lest chancre lurk *unsuspected* in the folds of the bowel, is insisted on. Moreover, women who have had sores must be kept prisoners for weeks or months after cure, lest secondary symptoms should crop up in course of time. It is roundly confessed that unless this be done, the system, even so far as the women who can be brought under inspection are concerned, must necessarily fail; and even when all these beastialities have been perpetrated upon girls merely suspected of incontinence by policemen, “The best regulations, notwithstanding all assertions to the contrary, cannot guarantee freedom from disease. The brothels are crowded on inspection days from the presumed extra security; the hope of escaping punishment multiplies vicious habits, and many are tempted by the health inspections who otherwise would never incur the risk.” (See *Acton on Prostitution*, quoted p. 16, part I.) Surely the attempt to force such a system on this country implies that soundness of mind is lost to those who advocate it. As a lover of the profession to which I have the honour to belong, I cannot, moreover, refrain from quoting from a leader in the *Medical Times and Gazette*, of September 22, 1869: “There is nothing which would tend more to deprive medicine of the rank of a respectable calling, than the fact that practitioners should be found willing to lend themselves to the dirty work of examining prostitutes, in order to enable them to carry on their trade, and even, as has been proposed, instructing them in the art of injecting, so that they may sin with safety. If the heads

of the profession, or the colleges, ever desire an opportunity of protecting their members from degradation, here is one."

"At last we must speak the truth. Woe to those who speak it not, and woe to you if you dare not hear it." This, according to the highest authorities, is what we must indispensably come to before the Contagious Diseases Acts can be of the very slightest service. Practitioners of medicine, armed with anal and vaginal specula, laryngoscopes, mops, sponges, caustic holders, and tongue depressors, violating with surgical instruments every other day, and perchance contaminating—with the assistance of government hags and grinning policemen in reserve—the mouths, throats, stripped skin, genital and anal apertures of hundreds of unwilling women and children, previously herded like cattle for hours: not only prostitutes, but milliners, dress makers, female operatives generally, domestic servants, wives, and others, whom police spies may choose to say they suspect of incontinence.* Women—some pregnant, others menstruating—strapped in coercion machines, smothered with towels, and threatened with the actual presence of and exposure to policemen, if they don't lie still;—all this under legal sanction, and in order that men may safely and without fear commit the very crime (if it be a crime) for which women are thus, on mere suspicion, most atrociously outraged!!!

"I object to the Contagious Diseases Act, because the ripping open of the moral sore and sewer is an outrage upon the country, and a day of sin, shame, and filthy jeering to the thoughtless crowd; because it embrates the sacred medical office, and pays it for pretending to give away the power of sin and wickedness; and because it is the germ of a system which would debauch and infect the general public. I object to it in the interest of the bad women whose persons are violated periodically by state interference, and who are unjustly selected as a mark for medical legislation, while the corresponding class—the male whores—are left free to emit infection; and I recall that all this comes of taking, not the opinion of experts, but their domination, and of allowing them to *build place, and power, and pelf* where the most sacred liberties have dwelt. The state surgeon should be attended, for indignant human nature's sake, by a stout vigilance committee of self-sacrificing women, and this committee should assess drum-head damages for any injury done by steel or forcings on the examined bodies. I am not a jurist, but I know by heart that there are rights of the person which precede and tower over the Church and State; and the Parliament which breaks them is out of all law, and openly invokes on both sides might against right, and in so far proclaims the dissolution of society.—"*A Free State and Free Medicine*," by James John Garth Wilkinson, M.D., 1870.

I think I have said enough to show that the examinations, even in the cases of women who can be brought to submit to them, are little or no protection. "Oh! but," say the promoters of the Contagious Diseases Acts, "it is granted that there are great difficulties of

* See *Appendix*, Part I.

diagnosis, but we can detect the worst cases." This is a grave error. The worst cases in appearance are comparatively unimportant in a sanitary point of view. The large sores, excrescences, and the profuse discharges, which a man must be blind and idiotic not to detect, communicate almost solely gonorrhœa and soft sores—purely local affections; while, as the editor of the *Medical Times and Gazette* observes, "the poison of true syphilis is so insidious, and lurks where least expected, that it is impossible to keep it out." Moreover, there are these terrible drawbacks to the system:—1. The examinations give a false security, especially to married men, and thus constitute a real danger for the innocent wives and children they are so falsely supposed to protect. Mr. Acton tells us of men who have travelled hundreds of miles, lured by a false security, to visit French brothels in London, when periodical examinations are carried out, and have immediately contracted a foul disorder. The brothels in France are crowded on examination days from presumed extra security. I am acquainted with commercial men, married, who have told me that they have availed themselves of the so-called protection afforded by government to fornicants in garrison towns, and knew of scores who did the same thing, when they would as soon have thought of jumping out of the window as incurring the risk of contagion elsewhere. I have attended one case of disease in a married man thus contracted recently myself. I need not enlarge upon this point; it is a matter of common sense. Once remove the fear of contagion, and what else, especially when from home, do a vast number of married men care for? "Misericordia" asks for the Act, in a letter to the *Pall Mall Gazette*, on behalf of innocent children. If "Misericordia" will give this matter a little serious consideration, I am quite sure he will see that innocent wives and children will suffer both from *desertion* and *disease* in exact proportion as this Act is extended. "If the promiscuous intercourse of the sexes should increase among us, whilst, as is perfectly certain to be the case, it is only partially freed from physical risk, it is quite possible that there may be no gain as regards the sum total of syphilitic misery."—*British Medical Journal*, June 18, 1870.

So much for security to be obtained, even in the case of women who can be brought to submit to this disgusting ordeal, but the fact is the great majority cannot be forced to submit to the examinations at all; and the Acts really call into existence a host of clandestine prostitutes,—women who regard periodical examinations with such horror (as they well may) that they will not submit to them. They get married to, or otherwise consort with, thieves and ruffians of every grade, who assist them in evading the police; their whole life is a living lie; a painful struggle is constantly going on between them and the police

agents, in which black mail, bribery, and corruption play no unimportant part; and they become infinitely more degraded and dangerous to society than under the *Laissez faire* system. In this degrading struggle the free agency of respectable women is trampled under foot. Self-dependent women and girls of humble station are cast helplessly at the mercy of police spies* and the secret letters of profligates; while the result of the whole transaction is this—the principle of liberty triumphs; the women escape in such vast numbers that not one in ten can be got under control. According to Leon Tefort, there are at the present moment 40,000 prostitutes in Paris who cannot be registered, while 2,782 are the number periodically examined. One would suppose, at first sight, that the unsubjected women there would be just in the same position, as regards danger to the public health, as the free women of England; but the danger is greatly increased, simply because when diseased, for fear of detection by their enemies the police mouchards, they conceal the fact. They dare not apply for treatment; bear any amount of

* Dr. Vintras stated in his evidence before the Venereal Commission, that 80 women were arrested in Paris every 24 hours, for the crime of walking about without a prostitute's licence, on the ground of intended prostitution. They are examined with the speculum after a night's incarceration.

A lady, writing from one of the subjected districts, says, "I heard a girl say to a very delicate lady-like girl, 'How is your baby Fanny?' Fanny burst into tears when I questioned her; she said her baby was dying, and it was the only thing she loved. I asked her if she was exempted from the examination during her pregnancy. She said, 'No; I begged very hard of the doctor to let me off, for I suffered so, I could bear it no longer.' But it was not until within 6 or 7 weeks of her confinement that he would let her off, and he said he could not let her off at all unless she went into the workhouse and remained there. Nothing can exceed the horror, shame, and grief with which most of the women speak of the examination; in many instances they wept when telling me of their having to go through it when their monthly illness was upon them." I copy the following from the *Shield*, of May 2, 1870, "The first case is that of Jane Boodle, she is the mother of several children. The spy stated on oath, 'That he had never seen her plying for hire, that he had never seen her in a house of ill fame, that he had no evidence of her prostitution.' He said, however, that he suspected her. Therefore the magistrates ordered her, the mother of children, to be enrolled as a common prostitute, to be herded with the lowest, brutally inspected, and if found affected with leucorrhœa, or any little ailment common to all or any woman, to be sent away to prison, from her children, for any period not exceeding nine months. I am informed that this poor woman was in very straitened circumstances, her children and an aged blind mother being entirely dependent upon what little she could earn by washing and mangling. The second case is that of Sarah Waters. She is a young girl, she is pregnant, she has been examined thrice. The instrumental violation of her person has caused her on each occasion great pain and copious flooding. The spy has gone to her home, into her bedroom, when she was ill and retching from her state. He has told her he would summons her if she did not submit; he has summoned her, and she was told by the magistrates she must either be imprisoned or submit to the examinations, which she stated were killing her. A lady who knows the truth of these facts from her own certain knowledge, calls it 'Savagery, that men should force instruments into the bodies of pregnant women, as if they had not enough to bear by nature.'"

disease rather than sink into the class of notorious prostitutes; are never cured, and thus become sources of infection infinitely more dangerous than any similar class in Great Britain. "They cause disease to be spread far and wide, and are at the same time so thoroughly secluded from observation and the possibility of suitable treatment, that it is developed and propagated far more extensively and more rapidly, and in forms much graver and much more dangerous than could be accomplished by any other practicable agency."*

M. Lecour, Commissaire Interrogateur and chef de Bureau à la Prefecture de Police, whose duty it is to superintend the administration of these Acts in Paris, and to note specially their effect in the limitation of disease, says: "All these results prove that prostitution is increasing, and that it is now *more dangerous than ever* to the public health. Has the action of the police then relaxed? No; on the contrary, it has more powerfully organised its means of repression, of surveillance, and of sanitary control. It has never been more active than now. This is proved by the fact that the number of daily arrests of unsubmitted girls is on the increase. THE EVIL IS A MORAL AND SOCIAL ONE, AND CANNOT BE CONTROLLED BY THE POLICE, WHO CAN NEITHER RESTRAIN NOR DESTROY IT. The number of 'permitted

* See "Justina's" reply to Miss Garrett; also the January number (1870) of the *Westminster Review*. The former may be had of Tweedie, Strand, price 1s.; the latter in a separate form, price 1s., of Trubner and Co.

The following is extracted from a letter from Mrs. Butler, published in the *Shield* of April 25, 1870. "Many people have wondered why these women after submitting to the examination once, or even twice or three times, have refused it the third time or fourth time. The reason is plain. In many cases the physical suffering inflicted is so great that it is not surprising that they should decline to be so tortured again and again. Many told me of the difficulty they had in walking afterwards, and of the night spent after, crying in sleepless pain. The doctors will deny this—they will swear, depend upon it, that the process is neither painful nor injurious—but the women probably are the best judges of whether or no they are suffering pain, and all women, knowing their own constitution, must (if once they know what it is which these women have to go through) be aware that such a violent and unnatural process frequently repeated must be injurious as well as painful. When I saw women in bed suffering, weeping, the whole nervous system shaken by this outrage; when I saw actual evidence of the pain and torture inflicted, I asked myself, 'Is any state on earth justified in inflicting torture on frail, helpless, often friendless, girls for any crime that can be mentioned?' I shall now give you some of the cases enquired into by Mr. and Mrs. Heritage, whose untiring benevolence among these outcasts deserves mention, and I shall reserve for a future letter, or letters, notices of my observations on the working of the detective police system, and the educating tendencies generally. I accompanied Mrs. Heritage to visit some of these cases. The following is from her note-book: 'Visited Miss G.; found her a most interesting young person; an orphan. She has attended for examination several times, but experienced so much pain that she determined not to endure it again. She saw Mr. Ryden, her own doctor, as she had symptoms which were new to her, and which prevented her walking except with great pain. She asked Mr. R. if she could be excused attending at Hawkes Lane, as she had been pronounced perfectly free from disease. He found she had signed the voluntary (?) submission, and told her she must continue to attend. She wrote a note to

houses' (brothels) is diminishing. This sounds well; but now let us see. The fact is this: women leave the permitted houses and swell the list of '*filles isolées*' (solitary prostitutes) [whom it is much more difficult to bring under police control.] These '*filles isolées*' under control are again year by year diminishing, by going over to, and augmenting the ranks of, the unregistered women. The numbers of these latter increase continually, and the difficulties encountered by the police are insuperable. The evil must be *overcome by moral*, not by *legislative means*." In a letter to Mrs. Butler, the same authority makes the frank and honest avowal contained in the following words: "THEREFORE WE SEE THAT BY SCIENCE WE HAVE INCREASED AND NOT DIMINISHED THE EVIL."

The editor of the *British and Foreign Medico-Chirurgical Review* says: "That clandestine prostitution is the rock on which all foreign systems of regulation have broken up, and it will prove fatal here to any scheme for annihilating syphilis among our civil population;" and the foreign correspondent of the *Medical Times and Gazette* (vol. ii., 1869), speaking of prostitution in Holland, remarks: "In the published reports of prostitution and prostitutes you everywhere find spoken of

the officers stating her inability to attend through illness. One of the constables went down to her house, and though she was in bed, he opened *her room door and walked up to her bed*. Being very weak, she was much agitated at such rude and offensive treatment. He spoke very roughly to her, and said she must attend, or they would come and carry her to Hawkes Lane. She has been out only a few steps when the sun was warm, and immediately one of the spies pounced upon her, and ordered her to go next time, but she assured me she would go to prison rather than to the examination; it made her so ill. She is suffering from severe affection of the chest and lungs, has a violent cough, and pain in her side, and every appearance of consumption. She expressed the deepest gratitude when I told her of the efforts we were making for the repeal of the Acts' This girl said to me, when there with Mrs. Heritage, 'We ought all to show the officers that we have some respect for our persons' Many people think, I believe, that such women have *no right* to have any respect whatever for their own persons. To continue from Mrs. Heritage's notes: 'Visited and conversed with A. W., a cheerful, candid girl about 22. She stated that early in January she was at the "Alexandra" public house in Northgate, where most evenings, there are amusing entertainments. There were several girls gathered there: not a man among them, when a stranger appeared among them. After talking familiarly with them, he said he wanted the name and address of each one present, Not having the slightest idea of the purpose, they willingly gave their names. They were visited by the Inspector and ordered to appear at Hawkes Lane the following Friday. She went, not at all knowing for what purpose. When they entered the house the inspector sat at his desk, and calling them, said they must sign their names. Some asked what they had to sign their names for? "O," he replied, "you will find out that presently; sign your name." Up to the hour I was spending with them, neither of these girls, in whose lodging I was, had any idea of the nature of what they had signed. It was the voluntary submission, but in several cases which came before us, it had not been read to them at all. 'They were then ordered upstairs, and locked up together. One by one, they were taken out by the Inspector to have the horrid secret revealed to them. Seven of the number were detained, and told that the officers would take them away to hospital. Some became

a diminution of both." (This is the sort of information we are favoured with from our garrison towns by the subordinates employed in carrying out the regulations.) But what says the Prefect of Police of the Hague, on the question? "At what figure do you estimate the number of clandestine prostitutes?" He answers, "THEY ARE NOT TO BE ESTIMATED, THEY ARE CONTINUALLY INCREASING." The same writer observes: "You ask me, Do the laws against prostitution work well for morality? I reply, No! Do they work well for the suppression of syphilis? I reply, No! Do they really diminish venereal disease? My opinion is, No, no, no!"* In reference to the diminution of brothels under the regulation system, M. Lecour, than whose authority none can be higher, remarks: "It would be a grave error to suppose that on behalf of public morality this fact constitutes a reason for rejoicing, for it is due only to a simple change of form. Now-a-days men search for adventure at the great risk of their health, and in many cases of their tranquillity. It is a question of vanity and luxury on an immoral, unwholesome, ground. Instead of the

excited; they entreated to be allowed to go home and take leave of relations, or to get a few little things together—pen, ink, and paper; but every entreaty failed. "No," was the stern reply; "we have got you, and we will keep you." They refused to walk, and said if they were thus dragged away they should carry them to the station. A cab was called, and seven, poor, sad women, in anger and tears, were taken away by two detectives and a policeman to the station, without food, from the time they were leaving home till they were lodged in the hospital at Shorncliffe. E.B., about 18 years of age, an intelligent girl, has appeared for examination several times. Abhors it exceedingly. I gave both of these my address, told them to show it to the Inspector and say he must summon them before the magistrates, and I would go with them, and state much which they (the magistrates) would be sorry to hear. J. H. has a room in the same house. She said she had been ordered several times to appear at Hawkes Lane. She replied, "No; the pen, ink, and paper are not in existence with which you will get me to sign my name. You will never see me there." Mrs. K., wife of John K., was summoned to appear. She had not long been out of the general hospital, where she had undergone an operation. She was not strong yet; had no idea what they wanted of her at Hawkes Lane. She was one of the seven sent away. She begged very hard to go and see her husband before leaving, but was not allowed. She opened the window and would have jumped out, but several held her back. The Inspector opening the door, she rushed to it and tried to make her escape, but he prevented her. She struck him, and he threatened to send her to prison. Presently looking through the window, she saw her husband in the street, and called to him that she was detained. He started off to Mr. K., her doctor, hoping by *his* orders to get her released; but he could not. The poor husband took his wife some tea, and walked up and down outside, weeping very much indeed. After a time she was discharged from hospital, and they two have left the city together, he giving up his work to go with her.' I may add to this recital that this poor working man and his wife happened to come to a town on the coast of Kent the same day that I went there. The men of that town, learning that they were flying from 'Mr. Cardwell's spies and doctors,' said they should have protection, and that although that town is within the 15 miles over which the police control extends, the spies would scarcely find it worth while to show themselves in the place!

* See the increase of disease among the soldiers in Holland under the same system.—(Quoted from Dr. Huet's report p. 28.)

transient contact which, in the *maison tolérée*, or in the apartment of the *fille isolée*, is only a kind of material contamination, the danger of which the Administration strives to reduce, a chance meeting is preferred, where it is imagined possible to play a better rôle at a slight expense; and thus men throw themselves into the arms, always stretched out, of clandestine prostitution, which diffuses the syphilitic poison. The *maisons de tolérance* vanish, but it is only to reappear in forms which augment the risks to health without being less scandalous at the same time. If the police, always on the watch, opposed no obstacle, we should see these places of debauchery reappear and multiply in the guise of perfumery, drapery, or glove businesses, as they formerly abounded. Nothing can be more dangerous from every point of view, than these prostitution-establishments in disguise. They induce a moral decline which, without their special facility, would not occur, and they constitute real snares for young girls who, as work-girls or otherwise, seek employ, and who soon prostitute themselves without their families being aware of it."

Indeed all trustworthy evidence goes to show conclusively that we get worse than nothing for the sacrifices which this kind of legislation calls upon us to make. "Whatever renders vice apparently safe, and increases its prevalence, must increase disease." The following table, for the year 1868, gives some idea of the effects of the system in disseminating disease in Paris.

Venereal Patients treated in L'Hôpital du Midi.....	3,185
„ „ „ de Lourcine ...	1,024
„ „ „ St. Lazare.....	1,624
„ „ the ordinary Paris hospitals	1,551
„ „ military hospitals	2,046
Total.....	9,500

"Without fear of being taxed with exaggeration," says M. Lecour, "we may consider this number as representing the fifth of the number of venereal patients of Paris who are treated at home by physicians, or who apply to druggists or empirics. We thus reach, as a total number, 47,500,—a formidable number, although it is probably below the truth."*

Whenever we can get it, unbiassed testimony points to exactly the same results in this country. Mr. Wolferstan, house surgeon to the

* Contrast the 9,500 hospital patients in Paris with the 455 among a poor population of a million and a half in London, and the total number of 47,500 among all classes with the quotations I have already made from the President of the Association of the Medical Officers of Health and the twenty leading London practitioners, (p. 20)—recollecting always that the population of Paris and its suburbs is one half that of London,—and judge of the efficacy of the system in diminishing disease.

Royal Albért hospital, Devonport, than whom no man could possibly be in a better position to ascertain the truth, remarks in a letter published in *The Shield*, May 23rd, 1870: "My opportunities of forming an opinion have been ample. I was for nearly five years, commencing three months before the Act of 1864 came into operation, and ending at Christmas last, Resident Medical Officer at the Royal Albert Hospital, in which all the women subjected to the Acts have been detained for treatment. During this time about 1,500 women, representing in round numbers 4,000 admissions, were brought under my immediate notice. I AM OPPOSED TO THE PRESENT ACTS BECAUSE I BELIEVE THAT THEY HAVE FAILED TO EFFECT ANY MATERIAL IMPROVEMENT IN THE HEALTH OF THE SOLDIERS AND SAILORS; THAT THEY HAVE GREATLY INCREASED CLANDESTINE PROSTITUTION (AND, WITH IT, DISEASE AMONGST THE CIVIL POPULATION) AND ILLEGITIMACY."

One of the most striking proofs of the resolute resistance with which Paris prostitutes encounter the enforced sanitary *regime*, consists in the fact that nearly as many punishments are endured by them each year as there are registered women "in circulation." The number of cases of punishment, and the number of registered prostitutes "in circulation" during the last five years, are as follow:—

Years.	Prostitutes "in circulation."	Cases of Punishment.
1865	3,313	3,267
1866	3,203	3,510
1867	3,167	3,032
1868	2,938	3,208
1869	2,782	2,597

(See *Medical Mirror*, May 1st, 1870.) Although in 1869, only 2,782 women could be forced on to the register by the Paris police, we find M. Lefort, surgeon to the Hôpital du Midi, (in entire accord with M. Lecour) stating that clandestine prostitutes are continually on the increase. "Their number for the city of Paris alone, is valued at 40,000; the greatest ratio of syphilis has its source here; the largest amount of disease coming from the *bonnes fortunes*." Let us see now what remedies are proposed to meet the difficulties which have arisen under a science which does not diminish, but increase the evil—I quote from the *Medical Mirror*, of May 1st, 1870. "A body of police large enough to arrest 50,000 prostitutes, and to keep them in brothels, is the marvellous and eminently French prescription of M. Lefort." In fact there are influences concerned in the production of these diseases which cannot be controlled by policemen; and there is abundant evidence to show that no practical system of despotism would avail to check the malady. Already in Paris, in order to cope with the evils which have sprung up under similar regulations, it is

now insisted that 40,000 more women be added to the list already registered as prostitutes; also that girls of tender years (minors) living with their parents or families, or engaged in industrial occupations, if suspected by the police, shall be forced into brothels, registered for public use, and periodically examined. All this in spite of the remonstrances and entreaties of the parents, who, henceforth, are to be deprived of their right, hitherto recognised by the French law, to save their children if under age, from such infamy—(see *Medical Times*, September 25th, 1869)—*i.e.*, all women suspected of incontinence must be dragged from their parents' homes and occupations, converted into common prostitutes for public use, and compelled to live in licensed brothels.

“Now if in respect to the compulsory surveillance of prostitutes, one fact has been more fully established than another, it is that nothing renders them more degraded, and more devoid of self-respect, and more utterly reckless of themselves and what becomes of them, than being forced to submit to periodical medical inspections. They feel that they are treated like cattle, herded together to wait their turn to be examined, not for their own sakes, but for the sake of those men who resort to them, and for whose physical security *their* personal freedom, *their* sense of shame, and the modesty which may still remain to them are ruthlessly sacrificed. It might easily be imagined beforehand that enforced submission to such a repulsive ordeal cannot fail to harden, deprave, and make thoroughly desperate, and consequently almost wholly irrecoverable, even those natures which at the outset were essentially good and noble; and that it really does so experience proves with a decisiveness which only those who will not see have the boldness to question.”—(*“Justina’s” Reply to Miss Garrett.*) Does not all this show that the attempt to control vice by an express institution of it, is a delusion and a snare. Does it not prove even that it breeds evils so monstrous and horrible that our own ills are not to be named with them?

I think I have shown that, in the face of a progressive decline and comparative immunity from disease, there is no necessity for legislation in this country, and that the means proposed are certain to fail in attaining the object in view. It now remains for me to point out the only measures which would really suffice to check the spread of venereal disease.

Mr. Holmes Coote, the well known Surgeon to St. Bartholomew's Hospital, remarks “that the philanthropist who would attempt to deal with prostitution, on other principles than those of Him who uttered this warning and advice, “Let him that is without sin

amongst you cast the first stone," must needs be both a bold and ignorant man ;—bold, because he attempts in defiance of such warning to do that which has failed in every known clime and age ; ignorant, because he has yet to learn that in the sight of their maker men and women stand with equal rights, and that no blessing will attend legislation which presses unequally on one sex to the supposed advantage of the other." "Give these women shelter, give them protection if they ask it, give them help and advice ; cure them of disease, and if they wish for other employment find it for them, for whatever may be said of man the worst use that can be made of woman *is to turn her into a prostitute.*" Is there a man breathing with the slightest pretensions to wisdom, philanthropy, or common sense, who doubts that the worst use you can make of a woman is to turn her into a prostitute ? I trow not ; and yet the Contagious Diseases Acts are PROSTITUTE MAKING ACTS. These laws catch, register, ticket, and warrant clean for safe usage. Mr. Parsons tells us that the number at the three towns Portsmouth, Plymouth, and Devonport, has doubled under the operation of the law, and ascribes this singular phenomenon to the fact that the police have forced on to the register, that is, turned into common prostitutes, numbers of poor silly girls on the ground of "ATTEMPTED PROSTITUTION!!!" whatever that may mean.* Attempted prostitution!! Was there ever such a damnable system ? Of course those who support it don't know what they are doing, but they ought to know ; this law is, on the face of it, unutterably mean and obscene beyond conception ; unparalleled for its cruelty and injustice ; and no amount of false facts or specious reasoning is any excuse for one moment's toleration of its manifest and palpable iniquity : it is a law which forbids the victim of seduction to conceal her shame, drives her into the ranks of open prostitution, breaks down the bridge behind the sinner, and, as Mr. Lefort says of the same system in Paris, "FATALLY DEVOTES HER TO A LIFE OF PERPETUAL PROSTITUTION." Ponder this, ye mock humanitarians, who air a sneaking kindness for tyranny under the garb of religion. In ten years in Paris only 220 registered women escaped from their bondage by marriage, and in the same time only 347 having proved their reformation to the satisfaction of the police,† and, after six months of police supervision, have been struck off the register. Now, as Dr. Drysdale observes, "every medical man of hospital experience knows well that the majority of prostitutes in this country leave the streets and marry, or resume industrial occupations in a very short time." Mr. Cooper, of the Rescue Society, says that the great majority quit prostitution in a

* See reply to Mr. Tipping—(Commons, 377.)

† M. Daubie says: "These are old soldiers ; models, doubtless, of chastity in a military sense ;—I wonder what satisfies them ?"—See *Lancet*, May 28th, 1870.

few months, but in France and wherever this disgraceful law is in force, "once a prostitute always a prostitute" is true of every unfortunate who can be forced on to the register. Mr. Holmes Coote continues, "make provision that these women have ample accommodation to receive them in the hour of sickness, and let such hospitals be "readily accessible without unnecessary exposure or disgrace." That is the real remedy that so far as is possible will stamp out disease. Mr. J. R. Lane, Surgeon to the London Lock Hospital, observes on this point, "that much more good may be done by free hospitals than by police interference; police regulations can get only a certain number of women, whereas, free hospitals will be resorted to by all who are suffering from disease, even those who have contracted it clandestinely and who would escape the police." As no nation with a grain of sense, or spark of feeling left, can desire the infamous degradation of its women for the convenience of troopers, even the supporters of the Contagious Diseases Acts must allow that if women will avail themselves voluntarily of suitable treatment when diseased, there is no necessity for disgusting periodical examinations, police spies, and other abominations which are the necessary accompaniments of any form of licensed prostitution either in this country or elsewhere, and there is abundant evidence to show that free hospitals, or wards in connection with existing hospitals, would be gladly resorted to by all who required treatment, not only by those whose self respect prompted evasion of police control and disgusting inspections and who consequently under the *regime* of Contagious Diseases Acts, are more or less sources of permanent infection, but also by a large proportion of regularly inspected women who hate and defy the detective doctor and successfully conceal disease.

In page 10 of the Blue Book, containing the report of the Lords Committee, I find the following: "It has been amply shown by evidence before the Committee that the very efficiency of the act tends to lessen its success by inducing diseased prostitutes to flock into the places where it is in operation in order to gain the benefit of treatment in the hospital," *i.e.*, in spite of the obstacles put in the way of voluntary patients by the Compulsory Contagious Diseases Acts, and the penalties of nine months imprisonment, prostitutes really diseased are so anxious to be cured of venereal ailments that they brave all the infamy so carefully heaped upon unfortunate women by that measure, and flock to the hospitals in order to be cured. In face of the fact that the last army medical report bewails the inefficiency of the Act and complains that the increase of disease under its operation has been 33 per 1000 of force, I think the less said about its efficiency the better, but the evidence as to the flocking of diseased prostitutes to hospital for treat-

ment is simply fatal to the scheme of the compulsory fanatics who will insist in doing in one way that which can only be accomplished in another. In page 13 of the same report, Mr. Veasey remarks "that the periodical examinations were unnecessary, simply because the hospitals were filled with voluntary patients without it."

M. Mallalieu in reply to Earl Nelson (2,187) remarks "that the hospitals attracted diseased women who were eager to take advantage of the relief offered by the hospital. In Portsmouth for instance, they came in from Southampton and Winchester for the purpose of being treated." The same witness also stated "that at Devonport the hospital, even with an enlarged number of beds was overflowing, and that several women were waiting for vacancies." The same witness remarked "that if coercion were adopted it would bring them to a stand still very soon."

Mr. Berkeley Hill (2,285) says in answer to the Chairman "Hitherto, except at Aldershot and Sheerness, the demand for beds has been so great through the summer that they had not been able to examine the women frequently." They only examined diseased women, in fact so many came to hospital of their own accord to be cured that all the beds were filled, and they were unable to carry out the detestable investigations of healthy women for which the Act provides. The same witness remarks "that diseased prostitutes came to districts where the Act was in force, and when they are found out the worst punishment that awaits them is simply WHAT THEY WANT THEMSELVES, NAMELY, TO GET INTO HOSPITAL."

Peter Leonard, M.D., (2,346) says "the women have come forward voluntarily to be treated, they are very willing to take advantage of the Act for the purpose of being cured. In fact they are very glad to do it." Further on the same writer says "THE WOMEN WOULD SUBMIT TO ANYTHING RATHER THAN BE WITHOUT SOME PLACE WHERE THEY COULD GO TO TO GET CURED."

Mr. Woollcombe, (2,536) says "there has been a considerable importation of women; they have come into town from other quarters FOR THE PURPOSE OF GETTING ADMISSION INTO THE HOSPITAL; they have come from the lower end of Cornwall and various other places. The women are certainly amenable to kindness and careful good treatment to an extent which is very satisfactory."

Mr. Skey, (2,617) says "as to women refusing to enter the lock hospitals I do not believe it at all, my experience and observation of them would enable me to say that there is no objection whatever on their part."

The Chairman (618) replies "I do not think the evidence we have had militates against what you say—"THE WOMEN ARE WILLING ENOUGH TO ENTER THE LOCK HOSPITALS."

Mr. Paget (2,677) is asked, "Do you think women generally of that class would voluntarily enter the hospitals if there were hospitals established in every locality?" And replies, "I think they generally would, the lowest of them *certainly* would, and the lowest are, on the whole, the greatest propagators of the disease."

Surgeon-Major Wyatt says, "the lowest class of prostitutes, such as are found in our garrison towns, the class referred to by Mr. Paget, would make no difficulty about going in lock hospitals or any other hospitals." The same witness says, "the better class would not like to incur the disgrace of going to a lock hospital, BUT THEY WOULD READILY GO TO GENERAL HOSPITALS IF THEY HAD WARDS ATTACHED FOR THE TREATMENT OF SUCH CASES."

Captain Harris (p. 84) says "there is a constant influx of diseased women to the towns where the Act is in operation THAT THEY MAY GET INTO HOSPITAL AND BE CURED."

Dr. Trench, Health Officer for Liverpool, says that "several patients came to the refuge in the casual ward for the sole purpose of being put in the lock, that they might be cured of their diseases, and there would be a natural fear on the part of the inhabitants of Liverpool. that the venereal hospital would attract patients from other towns for whom they would have to pay," *i.e.*, they know so well that women who required treatment would make any sacrifices to secure it, that they fear to establish an hospital, it would prove such an attraction to diseased women!!!

The Rev. J. G. Bailey, of Chatham, says, "we have had instances of women coming from a distance—Canterbury, Dover, and Margate,—and offering themselves voluntarily BECAUSE THEY WERE DISEASED." He further says, "the Act defeats its object because THE HOSPITALS ATTRACT DISEASED WOMEN."

Mr. Acton, being asked about girls being inspected by the police, expressed the feeling which every right-thinking man must entertain, when he replies, "ONLY VOLUNTARILY, I HOPE." This gentleman, who had evidently been advocating the Act under the impression that it meant only the establishment of voluntary hospitals, says, "I thought myself, that women voluntarily came forward and went into hospital when they were diseased—that the object of the Act was that they should be taken into hospital,—and my wish would be to make it SO THAT THEY SHOULD HAVE EVERY INDUCEMENT TO COME FORWARD;" and I have no doubt that is the feeling of the medical men who support the Act—they know little or nothing of its disgusting provisions and the frightful evils it is sure to inaugurate. Now, we who oppose this iniquitous measure are prepared to carry out what Mr. Acton requires; we are prepared to establish lock hospitals for the lowest

class of prostitutes, and wards and out-patient departments in connection with existing infirmaries and dispensaries for girls who are not prostitutes, who are above that class, but who have unfortunately become diseased; women who cannot be controlled by Act of Parliament, and speaking of whom Mr. Acton says the Continental police have not succeeded in getting them under control—"neither in Paris, in Vienna, in Belgium can the police do it" (although they have utterly destroyed the liberty of respectable women in the attempt). Further (2,138), Mr. Acton says: "I do not think women would dislike to apply voluntarily to such institutions where they know that their complaints are efficiently treated;" in fact, I could fill pages with overwhelming testimony as to the fact that women so soon as they are diseased will gladly go anywhere to be cured, provided they are spared unnecessary disgrace or shameful exposure, and are received with such sympathy as is the right of every human being, Diseased women are readily amenable to kindness; THEY KNOW WHEN THEY ARE DISEASED LONG BEFORE THE DOCTOR CAN DETECT IT WITHOUT THEIR CO-OPERATION, and what, I should like to know, do the promoters of Contagious Diseases Acts want with healthy women, whether they are prostitutes or not? In fact, the whole thing is one of the greatest blunders ever achieved by the stupidity of Englishmen. The promoters of the Acts say women come of their own accord readily enough to hospital, but they are too ready to leave: I say there is no proof of that, but quite the contrary. Mr. Thomas Woolcombe says: "when we had no power whatever to detain the women if they chose to go out he used to experience some inconvenience when a ship came in, or, perhaps, a new regiment, or something of that kind, but he generally got over it by giving them some tea or amusement, and the practical result was that, in a great number of cases, they did not leave the hospital." If the women were told the condition of entry was that they should remain until cured, they would readily consent, and, if fairly treated, would consider it A POINT OF HONOUR TO KEEP TO THEIR WORD. In the Lourcine Hospital, in Paris, the authorities have no power to detain the women, yet no difficulty whatever is experienced in doing so: if a patient wishes to leave before she is cured the physician remonstrates with her; if she persists, Sisters of Charity persuade, the superintendent advises, and the girl's companions reproach her,—the result is, she always gives in and remains so long as is necessary.

Mr. Sloggett tells us that "many women who had been confined for months, and who, although not quite cured, were entitled to their discharge, have willingly expressed their readiness to be re-admitted on the same day to undergo a similar probation on his requesting

them to do so. With this last exception, the whole of the preceding evidence is copied from the blue book of the Lords' Committee. Space will not permit of further proof from the Commons that there is no need of compulsion. Moreover, it is not necessary,—“the spirit of genuine Christianity works not by force but by the subtle influence of kindness,” and the sooner the authors of these laws acknowledge that truth the better for them and the country at large. In an able paper, published in the *Westminster Review*, the January and April numbers of which I strongly advise all interested in this subject to read, the writer shows that the voluntary system is the only one at all adequate to cope with the diseases incidental to promiscuous intercourse.

Mr. Gisborne, of Derby, informed me that since the establishment of a voluntary hospital they had never had any disease of consequence. Dr. Scott, of Dumfries, bears similar testimony; and there is no doubt whatever that if, in the next report from subjected garrison districts, it could be shown that disease had diminished, that diminution would be due not to any obscene and disgusting periodical inspections of women, but simply to the establishment of hospitals for women, the introduction of lavatories into soldiers' brothels, and the more careful inspection and seclusion of soldiers themselves—ALL OF WHICH WOULD BE FAR BETTER ACCOMPLISHED WITHOUT ANY CONTAGIOUS DISEASES ACTS THAN WITH THEM; “any good results are precisely what voluntary efforts, under the direction of enlightened public opinion, would most surely achieve, ONLY IN FAR GREATER MEASURE, and unmixed with all those evil consequences which, as experience has shown, have always been produced by the forcible control of prostitution in a manner similar to that which these Acts authorize.”

For my own part, I do not place the slightest faith in the statements which have been adduced as to the failure of the voluntary system. Let those who believe in the power of kindness and human sympathy with the fallen have the direction of voluntary hospitals, instead of the advocates of licensed prostitution, and we should soon have sufficient proofs of the success of such efforts. Moreover, considering the difficulties of diagnosis of disease in women, I accept with great caution the statistics as to the number affected at certain districts, both before and after the application of the Acts. It is not enough to have a few beds, the very existence of which (and the hospitals in which they are placed) are unknown to the women; it will not do to throw difficulties in the way of admission, or to receive applicants with austerity. The victims of our social arrangements must have every inducement to come forward; papers must be circulated amongst them, pointing out the nature of their maladies, the

wickedness of communicating disease, and earnestly soliciting the attendance of those afflicted. Their liberty, moreover, must be restricted as little as possible—the vast majority of these cases are trivial and do not require confinement. Men never dream of going to bed or into hospital for such affections; private patients do not abandon their usual avocations, give up hunting or any other sport or pastime; and if one of these is wicked enough, as some are, to infect a female, what sense or justice is there in giving *her* nine months' imprisonment for the misfortune which he has been blackguard enough to inflict, and which he is still free to inflict on others *ad libitum*? To knowingly communicate disease by either sex might be made a punishable offence; sores should be destroyed entirely and at once; while milder affections are readily prevented or cured by lotions which are regularly used by the registered women in France, and which the clandestines would also employ but for fear of detection by their enemies the police mouchards.

I could guarantee in any town, on purely free and voluntary principles, by the magic of kindness and even-handed justice, to do more towards repressing disease at a trifling expense, than would ever be accomplished by this hideous law, after enormous outlay and an annual tax of millions of money. We are told that the women must live by prostitution, although they may be diseased;—to which I reply that a few shillings a week would obviate that necessity. The destruction of sores would prevent their carrying on prostitution, and the small pittance itself, unaccompanied by undue restraint, would be one of the strongest inducements for them to come forward, if they suspected they were diseased. The truth is, the voluntary system was never meant to succeed. Such essay as has been made was merely intended to try the temper of the people, and on the first opportunity to substitute in its place the continental system.

The following table, furnished to the Committee of the Lords by Mr. Romaine, shows how far the promoters of these laws are justified in claiming for their system of police spies and periodical examinations of healthy women, any advantage over a system of voluntary hospitals, and the treatment and restriction only of such women as were known to be diseased. The table refers to sailors and marines stationed at Plymouth.

1864—Number of men suffering from venereal diseases					} 129·7 per 1000
				during first six months	
1864—	„	„	„	second six months	120·1 per 1000
1865—	„	„	„	first six months	104·8 per 1000
1865—	„	„	„	second six months	101·7 per 1000
1866—	„	„	„	first six months	62·3 per 1000

In face of this most satisfactory decline, the Act of 1866 was applied in the second half of 1866, and the full continental system enforced, with the following result :—

1866—	Number of men suffering from venereal disease	}	62·3 per 1000
	during first six months		
1866—	„ „ „ second six months		60 4 per 1000
1867—	„ „ „		49 3 per 1000

Showing a reduction of 13 per 1000 only under the continental system, in face of a previous reduction of 67 per 1000 without any licensing, legalising, periodical examinations, or other indefensible atrocities. Moreover, we have no evidence as to how far the disease was declining before the introduction of the Act of 1864, and there is every reason for believing that the very satisfactory decline adverted to in page 9, so far as the army is concerned, was also manifest in the navy, and that the reduction noticed prior to the adoption of the Act of 1866 was due to the natural fall in this class of cases, which Dr. Balfour tells us *he noticed at all the stations prior to the introduction of these laws.*

Mr. Holmes Coote tells us that the earnest men who met some years ago to originate the movement which terminated in the passing of the Contagious Diseases Acts had little idea of the use that would be made of their labours and advice. He says : “As one of those who took an active part in all that then transpired, I loudly maintain that the idea of the compulsory examination of women, their enforced subjection to the police, their exposure to the penalties of registration and imprisonment, were views which would have been scouted by the gentlemen who met to devise means of giving shelter and protection to unfortunate females.” He continues, “the miserable abortion of all these high aspirations is now before the public, namely, a set of penal, or, as they are called sanitary laws, of a character sufficient to disgrace a despotic monarchy.” “To whatever conclusion society may arrive, of one fact we may rest assured, namely,—that severity of legislation will never accomplish any good end; the evil glides from the rude grasp of the law, like a shadow dance, only to appear elsewhere in a novel and perhaps more seductive form. Do not legislate for or against it.” “Some women prostitute themselves when deserted by their husbands, that they may give comforts to an infant or growing child; others to eke out a miserable stipend, so that the class called gay by no means comprises the greater number; but with one and all I have noticed this peculiarity—they are quiet and apparently contented if left alone, polite and even respectful to those whose business it is to attend on them.”

Having from time to time had the management of lock wards myself, I can thoroughly endorse this eminent surgeon's statements, and must say that we are deeply indebted to him for his manly protest

against the unwarrantable assumption that medical men, as a body, are in favour of such laws. When, on the 6th of May, a deputation waited upon Mr. Bruce, the Home Secretary, on behalf of those who feel that the repeal of these Acts is a very imperfect reparation due to the nation for the wrong they have inflicted, he informed them that the law had been enacted in obedience to the representations of the few earnest medical men to whom Mr. Holmes Coote refers. It is well, therefore, that the right honourable gentleman, and all concerned, should know that the black Acts which have been recently forced upon an unwilling people by our paternal government, would have been "scouted" by the scientific gentlemen who are now, by a strange process of reasoning, held responsible for them. For my own part, if I stood alone and all the world against me, I would still vehemently protest against such obscenely cruel and hideously unjust statutes.

There are two-and-a-half millions of women in this country who are obliged to live without male help. Thousands, though they work from early morn until late in the night, are unable to earn more than from three to five shillings a week, and are often unemployed. Frequently, too, aged parents or pining children are dependent upon them: starvation, and cruel, biting poverty urges them on the one hand; on the other, they are surrounded by temptations and beset by bribes. Let me ask: Is it just to stamp these poor creatures with life-long infamy for a fault which leaves their partners—the untempted, tempting, and greater sinners—untouched, and free to spread disease? or right that pure and virtuous women should be placed under the ban of a low, legalised espionage, in order that men may be vicious with impunity? I am not apologising for vice, but protesting against most dastardly cruelty, when I say that in the ranks of prostitution are to be found many women of noble character, most amiable disposition, and great natural talent, many of whom have been a mark of seduction for their beauty, and who have fallen from a mere exaggeration and perversion of all that is best, most loveable, and self-sacrificing in woman. To force these poor victims into the ranks of notorious prostitutes—to forbid all attempts at concealment of their shame—to brand them with the eternal infamy of registration, and periodically subject their frail, unconsenting bodies to such ruthless exposure and disgusting introspection—is, to my mind, purely and simply the very acmé of civilized barbarism, and must inevitably bring disgrace and ruin on the government that permits it!!!

Let those who have succeeded in stealing a march upon the country, and in secretly robbing British subjects of their just liberties, dilate upon the necessity of being calm and dispassionate. I say we do well to be angry; and it is our bounden duty to be indignant at the

indecent and revolting treatment to which unfortunate women are subjected, as well as the abolition of legal safeguards for *all* women.

The Contagious Diseases Acts—at the bidding of a bugbear—a fictitious terror—aim at the sacrifice of the first principles of the constitution of this realm. They assume that women are guilty until they prove their innocence;—brand them as unchaste until they do that which Diana herself could not accomplish, namely, prove their own chastity;—imprison them like criminals, although it is not even pretended that they have been guilty of any crime, deprive them of their liberty because they have fallen into misfortune, and on pain of indefinite imprisonment with hard labour, although avowedly healthy and harmless periodically torture them with indecent exposure and atrocious surgical operations. Such enactments shock our natural sense of right and justice, by making one law for women, and another for men; and mock us by an assumption of philanthropy, while sanctioning cruelties which find no counterpart in any other modern institution,—slavery included. They violate the first principles of morality—equal laws; and claim that they promote morality, and in the name of God and even-handed justice, impose all the penalties upon the weaker, less erring, and more tempted of two sharers in a common offence. These English laws are specially shocking, and infinitely more atrocious than anything which has yet been perpetrated in the name of the Administration in France, INASMUCH AS THEY SANCTION THE REGISTRATION AS COMMON PROSTITUTES OF GIRLS UNDER AGE AND LITTLE CHILDREN, IN SPITE OF THE REMONSTRANCES OF THEIR PARENTS; WIVES, IN SPITE OF THE RECLAMATIONS OF THEIR HUSBANDS; servants and female operatives, in spite of the intercession of their employers. They secure for a British Parliament the singular and unenviable distinction of being the first legislative assembly that has legalised prostitution. They hypocritically pretend not to license, while permitting—nay, encouraging—practice under certain conditions. They call the system voluntary, yet at the same time declare that it could not be carried out unless the victims were abject with terror; adopt as a fundamental axiom that prostitution is a necessity; complain of a paucity of prostitutes, and yet profess a desire to reclaim. They place the freedom, honour, and sacred personal rights of English women under the brutal control of the lowest executives, who, in the guise of swell-mobsmen, are permitted to make offensive overtures to decent women, in the hope of multiplying the number of apparent cases falling within the scope of the Acts. They force comparatively innocent girls into dangerous and demoralising association, both at the periodical examinations and for long periods of hospital imprisonment, with utterly abandoned women. They tax already overtaxed honest people

to secure safe prostitutes for dissolute men, yet fail to secure them; and spend £7,313 to save £3,600, and after all do not save it. They encourage the soldier in the despicable meanness of informing against the woman he has recently clasped to his bosom with protestations of affection; make the surgeon an executioner of unjust laws, and agent of police spies; the chaplain a part and parcel of a vast system of licensing and disinfecting prostitutes for public use; and, by introducing a military metropolitan police into provincial towns, uncontrolled by municipal authorities, inaugurate a central despotic bureaucracy fraught with danger to the liberties of Englishmen, and tending to the destruction of our constitutional right to local self-government. Such laws debase women, debauch men, destroy the liberty of the subject, and, in spite of all, so thoroughly fail in the attainment of the object in view, that they positively tend to increase disease: for whatever renders vice apparently safe, and increases its prevalence, must increase disease. You cannot divorce incontinence and venereal disease; debauchery is not possible without penalties; and there is no forgiveness for physical sin.

THIRD EDITION.

STATEMENT

OF THE GROUNDS UPON WHICH THE

CONTAGIOUS DISEASES ACTS ARE OPPOSED.

ADDRESSED TO THE

RIGHT HON. R. A. CROSS, M.P.,

H.M. Secretary of State for the Home Department,

AND TO THE

RIGHT HON. G. HARDY, M.P.,

H.M. Secretary of State for War,

BY

J. BIRKBECK NEVINS, M.D., LOND.

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1875.

the Acts, subsequently to the application of these Acts the reduction, he says, has been less; but he has nowhere shown us that where the Acts had not been in force any reduction had taken place. We are met constantly with the statement that, because before the introduction of the Act there was a reduction at stations which subsequently came under it, that reduction should have gone on indefinitely. Now, sir, if we take the course of disease from 1860 onwards, we find that it diminished in frequency—I allude to primary venereal sores—from 1860 to 1866. From that period in all those stations not under the Act, the venereal sores increased; they went on fluctuating, but still increased in 1867. There was a slight diminution in the following year, a considerable increase in 1869, a slight diminution again in 1870, a very marked one in 1871, and in 1872 a very marked increase. We may naturally assume that, if the disease had increased in such a large number of stations, it would have done so in the other fourteen, provided they had not had the Act applied to them. We can detect in the fourteen under the Act a very slight fluctuation only. [The speaker referred to diagrams which were hung on the wall.] Here is a diagram, for instance, which shows the disease fell from 1864 to 1866, when it rose again. This is in the stations not under the Act. A very large rise to 1869; it then fell to this mark [pointing] in 1871; and in 1872 it rose again, as you see here. Now, in many of the illustrations of Dr. Nevins, he compares the minimum of 1866 with the maximum of 1872. I need not say that that is no comparison as to the general prevalence of the disease. It does not afford sufficient data to base a conclusion upon. Another point that Dr. Nevins has referred to is the variations between different stations. Now, he may not be aware, and I dare say many here may not be aware, that the variations at the same station at the same time between regiments in contiguous barracks are sometimes really greater than any he has pointed out. At one period at Aldershot I had occasion to look into the question there connected with one regiment, and to make sure of the fact as to that regiment I extended it to other regiments. Those who have been at Aldershot may recollect a row of brick buildings, composing the three infantry blocks and the artillery barracks; there was an infantry regiment in each of these blocks, and, for reasons I need not state now, it became my business to examine the course of disease in these three sets of buildings. There was one regiment in the middle barrack, that, in the course of forty-four consecutive weeks, had an admission-rate of 42·5 per 1,000, per annum. The next one to them on one side had an admission-rate of 84 per 1,000, or nearly double. The next one to them on the other side had an admission-rate of 124 per 1,000, or nearly three times the first one. This took place at the same station, at the same time, under the same exposure. To see whether the same thing prevailed elsewhere, I took three regiments in the North Camp. They were the only regiments there for some time. I found that in one of these, in not quite such a long period (thirty weeks—which, however, is a considerable period), the admission-rate for primary sores, the annual rate, was 23 per 1,000. The next regiment was 59 per 1,000, and the next regiment was 114 per 1,000. All these things took place at the same time and place. And if you compare these numbers together, you find a degree of variation greater than anything Dr. Nevins has mentioned. Now, the points we have to arrive at from these facts are, that there are circumstances connected with these irregular manifestations of the disease that we are not yet fairly acquainted with; and that we must not attach much weight to the results obtained from small bodies of men, but must deal with large masses, or the observations must be extended over several years, so that deviations from the mean in one direction, among some, may be neutralised as far as possible by deviations in the opposite among others, so as to get the mean to enable us to come to a right conclusion. Many comparisons we have heard to-night have been based on two years. They have taken the year 1866 against 1872—that is, showing you a year of minimum against a year of maximum. The whole deductions drawn from that, without reference to the mean of the intervening period, are delusive. Dr. Nevins has referred to the state of secondary syphilis, and he has told you that the secondary syphilis has been greater latterly than it was formerly, before the Act was in force. Now, I am sorry to say—and I take my stand on medical returns—that I come to a different conclusion. But I may have met with points that did not occur to him. There has been a change of nomenclature, and the full significance of that he is perhaps not aware of. In former years—that is, before 1869—secondary syphilis was returned in the army under three heads—1st, secondary syphilis; 2nd, syphilitic cachexia; and 3rd, syphilitic iritis and I rather think that in taking out the numbers the latter two have been altogether omitted. Again, it is important to deal with these for several years, so as to arrive at a mean. Now, I have taken out all the cases of secondary syphilis from the Army Returns from 1860 to 1864—the number of men was 374,000, or 75,000 a year for these years. They amount to 34 per 1,000 per annum. From 1868 to 1872—the period when the Acts were fairly in operation—there were 380,000 men, or 76,000 a

year; and instead of 34 per 1,000 for secondary syphilis, the ratio was 25 per 1,000. In these cases you perceive I have taken an average of five years, and there was a large body of men to work upon. With regard to a comparison he made, I think it was a comparison of secondary syphilis in 1866, if I recollect right, with a subsequent period. Secondary syphilis varies from year to year, the same as the primary. The years when the primary sores have been small in number have been also those when the secondaries have been small in number. For instance, in 1864 they were 35.1 per 1,000; in 1865, 29.6; in 1866, 24.8; in 1867, 28.1; in 1868 they rose to 31.6; in 1869 they were 26.2 per 1,000; in 1871 they were 20.3; in 1872, 24.3 per 1,000; so that they fluctuate the same as the other. Now, 1866 compared with 1872 shows little change, but if compared with the previous year it would have given a fall of 4.5; so that here, again, dealing with particular years happening to fall, one in the minimum and the other in the maximum, it has thrown us out. By the proper method of examination, you have 34 in the former period and 25 in the latter—which is a decided reduction. Then again there is the question of discharges for syphilitic disease. In the first place, I suppose nobody here present will attach much weight to the discharges for syphilitic disease. All must know that when syphilitic disease passes on to affect the constitution, it most frequently displays itself in some form of disease in the brain, in the lungs, liver, or kidneys, and not as simple syphilitic disease that is uncomplicated. With regard to dealing with invaliding for syphilitic diseases we have some difficulty because until 1863 they were not separated from other forms of the enthetic class. But if we take from 1863 to 1867, and from 1868 to 1872, which are two periods of five years each, we get for the first period a discharge rate of 13 per 10,000, and the second 13.9 per 10,000: the latter period embraces 1869 and 1870, when the army was undergoing great reductions, and everybody likely to be unfit to serve was discharged, while in other years not a few of these would have been kept on. In fact, 266 out of 528 discharges in the five years occurred in 1869 and 1870. However, even with all that the number discharged is not sensibly different from that in the previous period. Now, Sir, another question which has been raised is whether there has been any decrease in the amount of men who were under treatment for syphilitic disease. Dr. Nevins here again has compared 1866 with subsequent years. In the first place, he has compared that with subsequent years, and without taking the intermediate period into the question. We find, according to a statement which is in the Report of the Commission on the Contagious Diseases Acts, the numbers that were in hospital daily for primary syphilis was, in 1866, 6.35. It rose in 1869—a period of unusual prevalence of syphilis in the places not under the Act—to 9 and a fraction in hospital. In 1870 it had diminished to 7.94. In the places that were under the Act, the numbers in hospital in 1867 daily were a fraction under 7 in 1,000—6.95; in 1870 they were down to 4.33 per 1,000. Similarly with gonorrhoea cases, they were reduced in number at stations under the Acts, as well as at those not under the Acts. There has been a question which Dr. Nevins referred to, and I think it is one that deserves considerable attention. We are in the habit of estimating the benefit of the Acts by the reduction in the number of the cases we see at the stations that are under them. But there is an important point we have never fairly gone into. From the commencement of April, 1868, orders were issued that medical officers in charge of troops at stations under the Act should return through the head of their department the number of cases of primary venereal affection that came under their notice that were not due to the locality. Those numbers have accumulated; and while I was in Aldershot they naturally came into my hands. I looked at them, and saw what I could make of them. I have statistics here from Aldershot showing that the average number of admissions for primary sores from 1868 to 1871 was 66.8 per 1,000; but of that number those who were traced as having been derived from the districts beyond the area in which the Act was in force, was such that it reduced the number due to the place where they were examined to 48. That being the average for four years, must be nearly correct. And I find from the remarks of Mr. Acton this evening, that at Woolwich the same thing appears to be going on. To get at the exact ratio of disease at Aldershot it is necessary to add two small corrections to this. One is that the ratio is calculated upon the total strength of men, including those who happen to be on furlough; and an addition should be made at Aldershot for those men absent, in the same ratio as occurred amongst those present. I am not able to state it positively; I hope to get the exact figures by-and-by. Another correction is that when we take credit for the cases coming to us we require to make an allowance for those that are exported—that is, for cases which have been contracted at Aldershot and go away before the disease becomes developed. That correction I reckon would be amply provided for if we allow one-twenty-sixth of the annual ratio—that is, all cases infected within a fortnight of people going away. These two corrections would then

raise the rate to somewhere about 50; so that we have, instead of the rate of 66·8 per 1,000, an actual rate of about 50 per 1,000 prevailing; and this I apprehend will apply more or less to all the other places under the Act. Now, with regard to gonorrhœa, I find with the same period the rate of gonorrhœa at Aldershot 95·2 per 1,000. The imported cases were 23·4 per 1,000; that reduces the rate to somewhere about 72 per 1,000; so that the number of cases due to this protected station is about 76 per 1,000, allowing for the imported cases,—which is a very important reduction that we have not hitherto thought of.

Objections 1st.—Single years—1866 and 1872—compared (said to be a fallacious method)—and also comparing generally a minimum with a maximum year.

Answer.—The first objection is fully answered in the third paragraph of the “Explanation of the Diagrams” (Diagram Sheets), in which it is shewn that this mode of comparison is more fair and less fallacious than any other that has been proposed. Disease had fallen progressively in the army generally to a low ratio in 1866, when the Act was passed; and the introduction of this new and important sanitary measure fixed the date for computing the fall in disease previous to its operation. As, however, the Act was not introduced into operation in every station in 1866, this year is not employed when another was the real date of change; and 1867 is used for Aldershot; 1868 for Cork and Shorncliffe; 1869 for Curragh and Colechester; and 1870 for Dover, Maidstone, Winchester, and Canterbury (9 stations out of the 14), because the Act was introduced into them in these years. *In a large majority of cases 1866 was not, in point of fact, a minimum year.* It was a minimum year in venereal sores in only 4 of the subjected stations, and in only 3 of the unsubjected stations, *i.e.*, in only one-fourth of the whole 28 stations. 1864 in the unsubjected and 1865 in the subjected stations were minimum years nearly as often as 1866. Previous to the application of the Acts 1867 was the minimum year in Shorncliffe and 1869 in Canterbury among the subjected stations, and the minimum year was not reached in the unsubjected stations until 1867 in Pembroke Dock, 1868 in Edinburgh, and 1871 in Winchester and Dublin. Although, therefore, 1866 was somewhat more frequently a minimum year than any other, it does not possess this rank in above one-fourth of the subjected and unsubjected stations put together. So, also, 1872 is not selected for comparison because it happens to be a maximum year, for, in the first Ed. of this “Statement,” 1871 was throughout used for comparison; but the latest year for which the Returns have been published officially has been taken as being manifestly an unselected one, and as giving the longest possible period for comparison.

1872 was not a maximum year in Portsmouth, Chatham, and Aldershot, large subjected stations, nor in the Isle of Wight, Pembroke Dock, Edinburgh, Sheffield, and Athlone, unsubjected ones, for in these places disease was lower in 1872 than in 1871. The most conclusive proof however that in taking 1866, the date of the Acts, and 1872 the latest published official date a minimum has not been fallaciously compared with a maximum year, is obtained by comparing other years together—for example, 1865 with 1871, or 1864 with 1870,—and when done in the same manner as in the diagram, the results come out even still more clearly against the Acts, and further show, that whatever years are taken for comparison before and after the Act, the result is against them ; proving that the fall before the Act of 1866 was, upon the whole, a steadily progressive one, and that the rate of fall since the Acts has been steadily checked ; and that it is therefore a perfectly fair and truth-giving mode of comparison to compare the ratio in 1860 with the ratio when the Act was put in force in each particular station ; and this, again, with the latest published year, as has been done in this “Statement,”—the fluctuations in the great military stations (see Diagrams and parag. 65, 66) not interfering upon the whole with the general decline in the amount of disease.

Objection 2nd.—*Dr. Nevins had not shown that any reduction would have taken place if the Acts had not been in force. And although Primary Venereal Sores did diminish from 1860 to 1866, from that period in all those stations not under the Acts they increased. “We may naturally assume that if the disease had INCREASED in such a large number of Stations it would have done so in the other fourteen, provided they had not had the Act applied to them.”*

Answer.—This also is answered in the “General Remarks” upon the unsubjected stations, p. xiii., where it is shown that a reduction had taken place in *every station* except Manchester, were there was a rise of $\frac{1}{10}$. In many of the stations this reduction was very large $\frac{1}{4}$, $\frac{1}{3}$, $\frac{2}{5}$, $\frac{5}{11}$, and there was a smaller reduction in others. Even in Dublin a reduction of $\frac{1}{5}$ is shown, *and so far from the average of Venereal Sores “having increased after 1866, in all the stations not under the Acts,” the fall continued in all but 4 of the stations after 1866, as is shewn in the table, at p. xiv. explanatory of “the 14 stations not under the Acts.”* We may, therefore, naturally assume, in accordance with Mr. Lawson’s principle, that if disease *decreased* in such a large number of stations *without* the Acts, it would have continued

to fall in the other (the subjected) Stations if the Acts had never been applied to them at all.

Objection 3rd.—*Dr. Nevins had perhaps overlooked the change in nomenclature in the Army Returns of secondary syphilis. He stated that secondary syphilis had become more frequent lately, but Mr. Lawson found that in 5 years before the Acts the average rate was 34 per 1,000, while in 5 years since the Acts the average rate was 25 per 1,000, "which is a decided reduction."*

Answer.—In consequence of Mr. Lawson's remarks, the writer has carefully examined the Army Returns again, and finds that the fall of one-fourth in secondary disease between the two terminal years 1861 and 1866 previous to the Acts, remains unaffected by the change in nomenclature; but the *average increase* of one *twelfth* since the Acts, which is stated in the Table, p. ii. (p. 30 of this Pamphlet), ought to be "one *sixteenth*." The figures adduced by Mr. Lawson show, without doubt, that the average amount of secondary syphilis was considerably higher before the year 1866 than since that date, but they do not afford the slightest proof that the Acts had any influence in producing the difference, for it had taken place before the Acts were in existence. What does not admit of dispute is that secondary syphilis, from some cause or other (but not from the Contagious Diseases Acts which were not passed), had fallen to a ratio in 1866 much below the average of several previous years; and that under the operation of the Act passed in that year, it is so far from having continued to fall that it has been higher in 4 years, and lower by 4·5 per 1,000 in only one year, and by 0·5 in another out of the 6 years since the Act has been in force: and the average amount upon Mr. Lawson's own statement, has been higher (25 per 1000 against 24·8) than it was before the Acts, every year except two (1871—20·3; 1872—24·3), and in some years much higher. In these remarkable facts the opponents of the Acts are unable to see any proof of sanitary improvement as a result of these measures.

Objection 4th.—*Increase of invaliding.*—Mr. Lawson does not dispute that there has been an increase of invaliding for secondary syphilis, nor does he challenge the accuracy of the writer's statement. His observation, addressed to the meeting which consisted largely of army surgeons, "I suppose nobody here present will attach much weight to the discharges for syphilitic disease," does not require any comment from the writer, who has been guided simply by the returns in the Army Reports.

Objection 5th.—In considering the question of the number of men under treatment, Dr. Nevins had again compared 1866 with a subsequent year, without noticing the intermediate period.

Answer.—The printed statement distributed to the meeting and contained in the Table at p. ii. was the following: "The mode of keeping the Army Returns has been changed, and an exact comparison cannot be made, but the constantly sick from primary syphilis, even in the protected stations, have only fallen from 5.09 per 1,000 in 1868 to 4.56 per 1,000 in 1872." 1866 is not used in the comparison, for neither it nor 1867 is contained in the Table in the Army Returns, from which the figures are taken (1872—p. 10), but the intermediate years, which Mr. Lawson thinks ought to have been noted, are as follows: 1868—5.09; 1869—4.89; 1870—4.46; 1871—3.89; 1872—4.56. The ratio for 1866, given by Mr. Lawson in his speech, is not contained in the Army Reports and does not refer to the protected stations.

The conclusion of Mr. Lawson's speech related to the proportion of disease contracted in unprotected and taken into protected places, but it did not refer to any statements made by the present writer. Upon this question generally, he must refer to the evidence in parag. 79, and to that before the Venereal Commission. *Question.*—338—5643—5649 — and before the Royal Commission, Q. 104; 424 Wakeford; and 474—475 Anniss. There is also mention in the Army and Navy Reports about the difficulty in trusting to the statements of the men, who allege that they were so drunk or had been to so many places, &c., that they did not know *where* they had contracted the disease. In short, they will make any evasion to escape from the odious position of sharing in the offence and then betraying their partners in it.

It has been stated by Dr. Parkes (*British Medical Journal*, 1874 p. 789), and it was also prominently mentioned in the discussion in the Medico Chirurgical Society, that the fall in venereal disease previous to 1866 was due to the reduction of the army generally, a process which combined an elimination of bad fellows already in the army, and a diminished amount of recruiting; and that the subsequent rise in disease was occasioned chiefly by the increase of recruiting after that year, an increase of recruits being said to be accompanied by increase of disease, and a lessened amount of recruiting by a reduction of disease. In order to test this explanation the following Table has been compiled from the Army Returns, and the proportions between the number of cases and the number of recruits have been calculated in the last columns. How

far they correspond, either before or after 1866, must be judged by the reader. The fall in disease previous to 1866 and its subsequent rise are attributed in this "Statement" to other causes than the varying number of recruits—parag. 49, 49a.

Year.	Number of cases of Prim. Syph. and Gon.		Number of Recruits.	Proportion of cases to Recruits.	
				Cases.	Recruits.
1860	21,331	.....	21,000	..... 1 1
1861	18,812	.....	7,000	..... 1 0.4
1862	16,888	.....	4,603	..... 1 0.3
1863	14,685	.....	6,417	..... 1 0.4
1864	12,249	.....	15,269	..... 1 1.2
1865	11,833	.....	14,303	..... 1 1.2
1866	10,575	.....	12,649	..... 1 1.2
1867	12,734	.....	16,577	..... 1 1.3
1868	13,472	.....	14,696	..... 1 1.0
1869	12,540	.....	11,089	..... 1 0.9
1870	11,281	.....	25,463	..... 1 2.2
1871	14,366	.....	24,198	..... 1 1.7
1872	14,375	.....	19,405	..... 1 1.3

The writer is not aware of having now left unanswered or unnoticed any objection to the general proofs of failure put forward in this "Statement," or to the processes by which the results have been arrived at; and he concludes this Postscript with the following

GENERAL RESULTS OF THE CONTROVERSY.

GONORRHOEA.—Increased in the army, especially in the subjected stations.

Doubled in the navy in the Home and Mediterranean protected stations since 1866, the date of the Act.

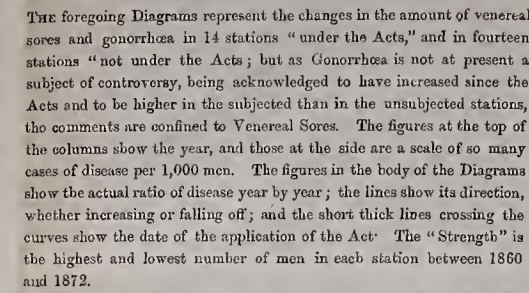
PRIMARY SYPHILIS.—The rate of fall in the army materially checked—the falling off in the subjected stations since the Act being much greater than the increase in improvement. Has decreased nearly one-third in the *unsubjected* stations, and the reduction has continued since the Act. Has nearly doubled in the Mediterranean navy. Less improvement in the Home navy than in any other station in the world.

SECONDARY SYPHILIS.—Reduction previous to the Acts stopped, and the average ratio raised during the 6 years since the Acts.

SEVERITY OF DISEASE.—No means of comparing the subjected and unsubjected stations in the army—Above the average in the Home and Mediterranean stations in the navy, judging from the duration of the cases.

PROSTITUTES.—Disease increased 12 per cent. and deaths more than doubled since the Act of 1866.

EXPLANATION OF DIAGRAMS.



The "average annual rate of fall before and after the Acts" has been computed as follows:—The ratio in 1860 (the commencement of the series) is compared with the ratio when the Act was brought into operation in each particular station, and the difference is divided by the length of time to the nearest month in the year, to obtain the "average annual rate of fall before the Acts; and in like manner the ratio when the Act was introduced is compared with the ratio in 1872 (the latest published return), and divided by the intervening time to get the "average annual rate of fall after the Acts." It has been objected to this method that it is not fair to compare single years, as the ratios fluctuate from year to year, and they are, therefore, liable to yield a fallacious result. The author of this "Statement" thinks on the contrary, that this method gives a truer and fairer illustration of the operation of the Acts than any other: for on looking at the curves it is evident that, with few exceptions specially commented upon hereafter, there has been in the stations under the Acts a progressive fall in disease, which commenced long before the Acts, and has been upon the whole very steady,—rapid in some cases like Woolwich, and slow in others like Chatham. This fall before the Act was in force was produced by a variety of agencies, and if the Act has been a really valuable sanitary agent, it is natural, and also our duty to expect that its introduction will shew evidence of its beneficial operation by a change for the better in the remainder of the curve representing the amount of disease. Whether it does so or not must be judged by examining the curves, and comparing their course before and after the introduction of this new and important sanitary agent. *It will be observed that comparison is not made between the year 1860 and another year arbitrarily, and it may be unfairly selected, nor get between a minimum and a maximum year selected on that account, but between the first year when the Army Returns were published in a form satisfactory to the Inspector General (1860), and the year (whatever it might be) in which the Acts were brought into operation in the various stations under examination; and by taking a large number, such as the fourteen stations, any slight fallacy in one will be corrected by another.*

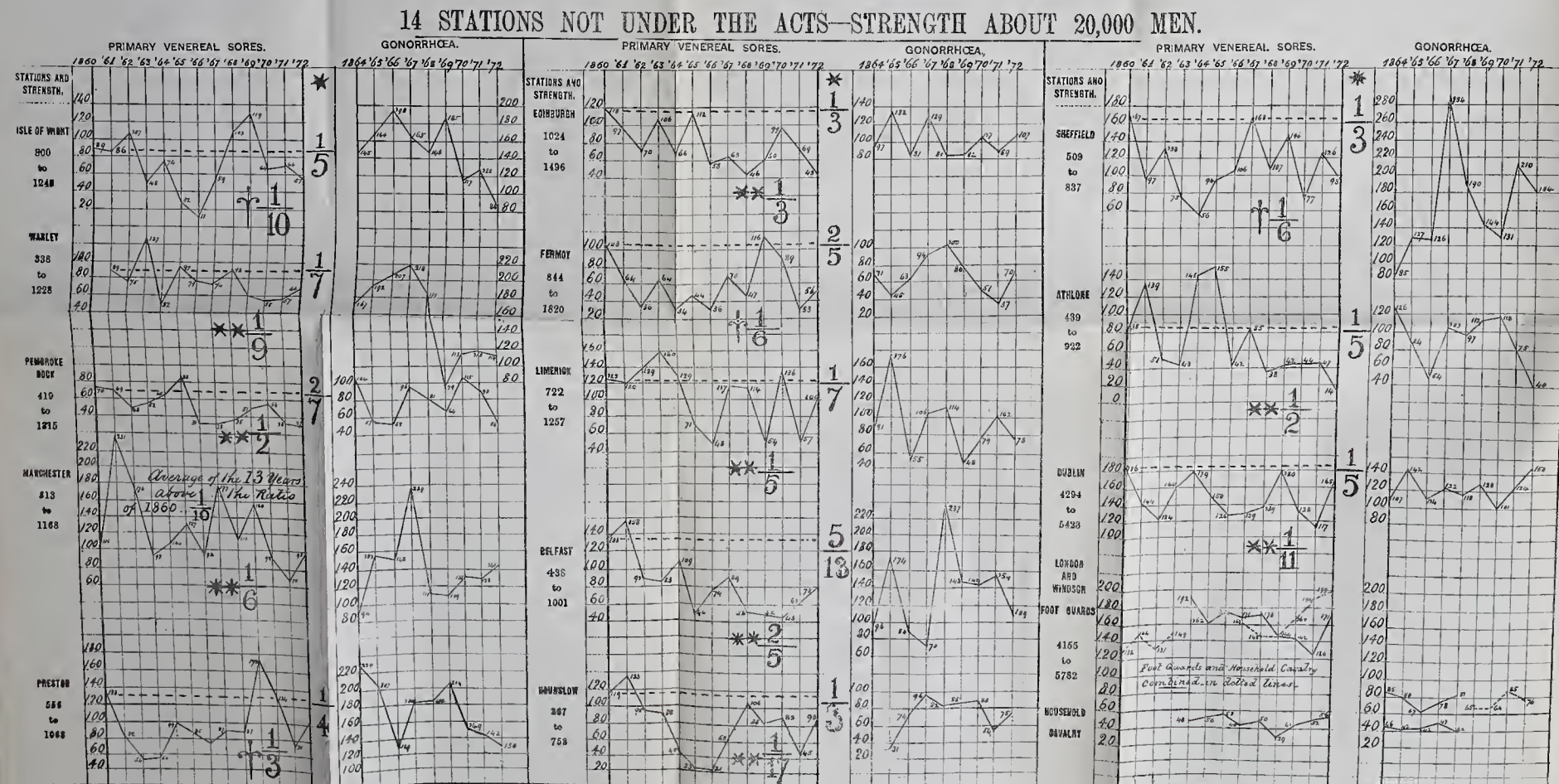
The ratios of venereal sores for 1860, '61, '62, and '63 are not absolutely correct, as is shown by the subjoined "Memorandum" forwarded by the War Office along with the returns of disease. According to this memorandum, the ratio of venereal sores for these 4 years, as given in this diagram, is somewhat less than it ought to be if "Bubo" had been added. But as the number to be added is uncertain, the author has preferred stating the numbers for venereal sores as they are given by the War Office, without making any doubtful allowances for "Bubo." The original ratio of disease appears, therefore, to be somewhat less than it ought to be, and the reduction previous to the Acts is therefore somewhat lessened in amount: but as this is rather against than in favour of his argument, the author has preferred accepting it to making doubtful additions.

"The two tables herewith, in conjunction with the tables at pages 812 and 813 of the report of the Royal Commission of 1871, on the Contagious Diseases Acts, furnish all the statistics asked for by Dr. Nevins.

"It is necessary to point out, that in the nomenclature in use during the period 1860 to 1863, many cases now included under the term "Primary Venereal Sore," were entered under the name of Bubo; and it being impossible to discriminate between such, and the cases of Bubo of Gonorrhoeal origin, it has been requisite to enter only the numbers recorded under the head of *Primary Syphilis*. The numbers, therefore, for the years 1860-63, though admitting of fair comparison with each other, cannot properly be contrasted with those at periods when the new nomenclature was in use, in which all cases of *Syphilitic Bubo* are entered under *Primary Syphilis*.

"The returns for the period of 1860 to 1863, do not admit of the statistics of the troops at Windsor, being given separately from those stationed in London.

W. M. MUIR,
Director General.



14 STATIONS UNDER THE ACTS.

GENERAL REMARKS.

THE several stations are so different one from another in the number of men and ratio of disease and other circumstances as not to admit of being examined *en masse*. Generally speaking the fall in disease continued up to the date when the Acts were introduced into force in any particular station, whether that date was 1866 as in Devonport and Portsmouth, 1867 in Aldershot, 1869 in Curragh, or 1870 in Dover.

It would be generally impossible for any one examining the curves in the Diagrams to fix upon the date at which in addition to the agencies already in operation, a new one (the Contagious Diseases Act) was introduced, and proved to be of unquestionable sanitary value by the subsequent course of disease.

Generally speaking the Act is not followed by any marked change in the character of the curve—that is to say, if disease was falling previously it continues to fall, though most frequently at a diminished rate; if it was fluctuating largely before the Act, it continues to do so after it.

In 1 Station—**Colchester**—there is a marked reduction in disease after the Act. This station is very exceptional in its character both before and since the Act.

In 1 „ **Cork**—there is a permanent increase of disease since the Act. The ratio has never been so low as it was before the Act was in force.

In 1 „ **Windsor**—there is no history for comparison previous to the Act, but the ratio has been permanently much higher than before the Act was in force.

In 1 „ **Maidstone**—the number of men is so small and the fluctuations are so great, that it is only a source of fallacy if included with others.

2 „ **Canterbury and Winchester**—disease fluctuated so much both before and since the Acts as to render comparative conclusions of no value.

THE 8 REMAINING STATIONS.—In 5 of these stations (about 30,000 strong), viz., *Devonport and Plymouth, Portsmouth, Woolwich, Aldershot, and Shorncliffe*, the average annual rate of fall was reduced after the Act of 1866 was put in force, from 11·0 to 6·0, from 14·7 to 10·1, from 17·0 to 4·4, from 7·4 to 3·7, and from 9·6 to 6·3.

In 3 Stations (about 11,000 strong), viz., *Chatham and Sheerness*, the *Curragh*, and *Dover*, the rate of fall was increased after the Act, from 4·0 to 5·5, from 9·2 to 11·0, and from 8·3 to 10·2; and in Colchester (about 2,000 strong), alluded to above, the annual rate of fall increased after the Act 30·7 per annum.

Shewing that *the loss in improvement in Primary Venereal Sores in the subjected Stations is much greater than the increase of improvement since the introduction of the Acts*. In these calculations 1866 is seldom used, and a minimum year has not been compared with a maximum year in a single instance.

This term, "Primary Venereal Sores," embraces, however, two forms of disease totally differing from each other in nature and importance, inasmuch as one is liable to be followed by Constitutional or "Secondary" affections of the system, and is therefore an important disease, while the other is a superficial temporary disorder, which leaves no constitutional affections behind, and is, therefore, very unimportant. Now, the amount of Secondary or Constitutional Syphilis throughout the whole Army had fallen by one-fourth between 1861 and 1866, the date of the Act: *but the fall ceased at this date, and the average amount through the whole Army has been higher by one-sixteenth during the 6 years since the Act than it was in 1866*—and by the latest official return (1872) it was only 0·47 per 1,000 lower than it was when the Act was passed. Such reduction as there may be in "venereal sores" is, therefore, in the superficial unimportant ones, not in the true syphilitic sores affecting the constitution, which have increased since the Act has been in operation, as is shewn by the increase of constitutional disease.

This result is also shewn by the relative proportion of primary and secondary disease in the army before and since the Acts. In the 7 years previous to the Acts (1859 to 1866 inclusive) secondary syphilis was 1 case to every 3·32 of primary. It has risen to 1 case to every 2·90 of primary, on the average of 7 years since the Acts (1866 to 1872 inclusive).

14 STATIONS NOT UNDER THE ACTS

GENERAL REMARKS.

THE *most striking feature* on first examining these curves, is the *extreme amount of fluctuation* of disease which characterises them all. There is no approach in any of the stations to the gradual and regular fall in disease which is so apparent both before and after the introduction of the Acts in a large portion of the subjected stations, and at first sight, it appears as if the only feature in which these unsubjected stations resemble each other, is in their great fluctuations.

On more careful examination, however, it is evident that *there is a decline in disease between the commencement and the end of this series*, for on looking at the dotted horizontal line drawn from the ratio in 1860, it is evident that the great bulk of disease is below the line in nearly every station, the ratio of disease rising above the line representing the amount in 1860 in very few instances; *and when the stations are examined in detail the fall is very remarkable*; for, on comparing the *average amount* of disease with the ratio at the beginning of the series, it appears that the average in the Isle of Wight is lower by $\frac{1}{5}$ than it was in 1860.

„	Warley	„	$\frac{1}{7}$	„	„
„	Pembroke Dock	„	$\frac{2}{5}$	„	„
„	Preston	„	$\frac{1}{4}$	„	„
„	Edinburgh	„	$\frac{1}{3}$	„	„
„	Fermoy	„	$\frac{2}{5}$	„	„
„	Limerick	„	$\frac{1}{7}$	„	„
„	Belfast	„	$\frac{5}{11}$	„	„
„	Hounslow	„	$\frac{1}{4}$	„	„
„	Sheffield	„	$\frac{1}{3}$	„	„
„	Athlone	„	$\frac{1}{5}$	„	„
„	Dublin	„	$\frac{1}{5}$	„	„

All these stations, except Dublin, have a nearly equal average strength of about a thousand, and the average reduction of disease obtained by adding them together is two-sevenths, or little less than one-third. That is to say, *Venereal Sores have fallen nearly one-third in these stations, under the influence of various causes, without the Contagious Diseases Acts in any one of them.*

In order to see whether the fall is still progressing, or it all occurred before the passing of the Act in the so-called minimum-year, 1866, the average of the first 6 years and of the last 6 years in each station is compared in the following table:—

	Average of 1st Six Years.		Average of 2nd Six Years.	
Isle of Wight	72	.....	79	increase of $\frac{1}{10}$
Preston	85	.....	111	„ $\frac{1}{3}$
Fermoy	58	.....	68	„ $\frac{1}{6}$
Sheffield	103	.....	119	„ $\frac{1}{6}$
Warley	86	.....	67	decrease of $\frac{1}{9}$
Pembroke Dock	65	.....	37	„ $\frac{1}{2}$
Manchester	141	.....	119	„ $\frac{1}{6}$
Edinburgh	96	.....	63	„ $\frac{1}{3}$
Limerick	123	.....	96	„ $\frac{1}{5}$
Belfast	103	.....	63	„ $\frac{2}{5}$
Hounslow	84	.....	79	„ $\frac{1}{17}$
Athlone	102	.....	45	„ $\frac{1}{2}$
Dublin	157	.....	143	„ $\frac{1}{11}$

It appears, therefore, that in 4 stations Venereal Sores during the second 6 years, were on an average higher by about one-fifth than during the first 6 years, and in 9 stations, including Dublin, the second 6 years were on the average lower by nearly one-third, than the first 6 years—Dublin itself being lower by one-eleventh in the second period than in the first.

The General Conclusions, therefore, to be derived from the Diagrams are the following:—

1st.—The unsubjected stations have about one-third the average strength of those under the Acts, and the fluctuations are, and always have been, much greater than in the larger military stations (see parag. 65), and there has been nothing in these small stations corresponding with the fall of disease *before* 1866 (the date of the Act) which is so marked a feature in nearly all the large stations under the Act.

2nd.—*There has been a large fall in disease in these unsubjected stations, amounting on an average to nearly one-third the original amount; and this fall has occurred in every station except Manchester, where the average of the whole 13 years is slightly higher ($\frac{1}{10}$) than the original ratio. This fall has been upon the whole progressive; for in 9 of the stations, including Dublin, the average of the last 6 years is lower by about one-third than the average of the first six years, while it is higher by one-fifth only in 4 of the stations (which are less by one-fourth when all added together than Dublin is by itself).*

3rd.—*There has been, therefore, a large fall of disease in these unsubjected stations quite independent of any influence from Contagious Diseases Acts, and it continued after the so-called minimum year, 1866.*

In the foregoing remarks London has not been alluded to, for it is so essentially different in such a multitude of respects from any other station, that it is impossible to make a comparison. Its sanitary history has also been so frequently interrupted by changes in the mode of keeping the Army Returns, as to exhibit nothing but short broken series. At one time its different forces were recorded together and afterwards separately; and Windsor was at first united with it, and they were recorded together, but Windsor was afterwards separated from it. *The most remarkable feature about it is the extraordinary difference in the ratio of disease in different bodies of soldiers quartered there at the same time, viz., the Foot Guards and the Household Cavalry; for whilst the ratios amongst the former range year after year from 126 to 190 per 1,000, averaging about 170, the ratio amongst the Household Cavalry has been as low as 29 (or barely a seventh of 199) and has never reached 60 per 1000. Their highest ratio, therefore, has not been half as much as the lowest ratio in the Foot Guards, which proves, most conclusively, that the amount of venereal disease depends upon other causes than the presence or absence of the protection afforded by Contagious Diseases Acts.*

The foregoing "Postscript" and Explanations of the Diagrams of Primary Venereal Sores are complete in themselves, though containing occasional references to the New and Enlarged Edition of the "Statement," of which they are intended to form a Preface. But as it is proposed also to issue them without the Statement, the following extracts are given from the new matter in the Appendix of the Statement, pp. 74 and 81, relating to Malta, which has been under C. D. Acts for above 16 years, and Hong Kong, which has been under them for 18 years—These places are peculiarly well adapted for shewing the most successful results of such legislation, and as they have been under the influence of surveillance of prostitutes above twice as long as the subjected stations at Home, they ought to shew a specially marked success, and the experience derived from them is important.

Malta.—Navy.—1872, p. 55. The latest evidence of all is brief and emphatic. The Staff Surgeon of the "Lord Warden," one of the ships specified in the Navy Reports as having had the greatest amount of disease on the Mediterranean station, says, "the working of the C. D. Acts at Malta does not prevent the contracting of disease by our seamen and marines."

Army.—1872, p. 66. "Syphilis was greatly more prevalent than in 1871, and the ratio of admissions for it *exceeded threefold the average* for the three years from 1869 to 1871."

Hong Kong.—A local Contagious Diseases Act has been in operation in Hong Kong since 1857 (Army Rep. 1867, p. 120), and this has from time to time been made more stringent, until now it includes actual licensing of brothels, and the most perfect regulations that can be devised for the checking venereal diseases by such means as legislation can command. It is stated in the Navy Report for 1873, p. 282, "Owing to the excellent working of the Contagious Diseases Acts, venereal diseases in this colony are reduced to a minimum." It is important to compare this with the Army results. In the Army Reports for 1869, '70, '71, and '72 the ratios of "syphilis" are as follows:—71, 57, 91, and 69 per 1,000—average 72 per 1,000—and as this term includes secondary as well as primary syphilis, the ratios when reduced to the Home proportion of "primary sores," are about 54 per 1,000, corresponding nearly with those in the *unprotected* Home station of Warley, which had 61, 55, 57, and 66—average 59 per 1,000 in the same four years. *This ratio is higher by one-third than in Pembroke Dock, and by one-half than in Athlone, and is barely less than the ratio in Belfast for the same four years, and is higher than the average of the 5 unprotected Home stations for the four years, viz. :—* Warley, Pembroke Dock, Edinburgh, Athlone, and Belfast put together. *A remarkable feature, however, in the Army Returns for China is the very large proportion of secondary diseases compared with primary; for in the four years above mentioned (which are all that the altered mode of keeping the Army Returns enables us to compare) there were 95 cases of secondary against 76 cases of primary disease, showing that more than every other case is affected with constitutional disease. The ratios per 1,000 of secondary in these 4 years were 38, 60, 58, and 29, or an average of 46 per 1,000, whilst the average in the Home Army since 1866 has only been 25·4 per 1,000. It appears, therefore, that the sequel of this legislation in Hong Kong for 15 years is an average ratio of primary disease scarcely below that of five of the unprotected stations at Home, and an average of constitutional syphilis per 1,000 higher by above one-half than the average throughout the whole Army at Home.*

STATEMENT

OF THE GROUNDS UPON WHICH THE

CONTAGIOUS DISEASES ACTS ARE OPPOSED.

*(The New Edition Revised, and the Health Statistics brought
down to the date of the latest Official Reports,)*

ADDRESSED TO THE

RIGHT HON. R. A. CROSS, M.P.,

H.M. Secretary of State for the Home Department,

IN ACCORDANCE WITH HIS LETTER THAT THE MEMORIALISTS SHOULD FURNISH HIM
WITH A WRITTEN STATEMENT OF THE GROUNDS UPON WHICH
THEY DESIRE THE REPEAL OF THE ACTS ;

PREPARED AT THE REQUEST OF THE LIVERPOOL COMMITTEE OF THE ASSOCIATION
FOR PROMOTING THE REPEAL OF THE ACTS,

BY

J. BIRKBECK NEVINS, M.D., LOND.,

CONSULTING SURGEON TO THE LIVERPOOL EYE AND EAR INFIRMARY; SENIOR LECTURER IN THE
LIVERPOOL ROYAL INFIRMARY SCHOOL OF MEDICINE; LATE PRESIDENT OF THE
LIVERPOOL LITERARY AND PHILOSOPHICAL SOCIETY.

" I hold that civil equality, that is equality of all subjects before the law—and that a law which recognizes the *personal rights of all subjects*—is the only foundation of a perfect commonwealth, one which secures to all, liberty, order, and justice. The principle of civil equality has long prevailed in this country, and I attribute the patriotism of our population mainly to this circumstance."—*Right Hon. BENJAMIN DISRAELI'S, M.P., Inaugural Address as Lord Rector of the University of Glasgow, 1874.*

" It is wrong to give men powers liable to abuse, and then assume that they will not be abused." JOHN STUART MILL, M.P., *Royal Commission Evidence.*

" We think that the Act of 1864 (which is less stringent than that of 1869,) is open to the serious objection, that it gives discretionary power to the police to lodge information against any woman they have reason to suspect is diseased. *This is a dangerous power.*"—*Sir J. PAKINGTON, Sir J. TRELAWNEY, and five other Commissioners' Record of dissent from the Report of the Royal Commission on the Acts.*

GENERAL OUTLINE OF "STATEMENT."

(THIRD EDITION.)

In the following "statement" the *objections* to the Acts are first stated generally (parag. 2 to 5), and the asserted benefits are also stated generally (6). The *asserted moral benefits* in reducing brothels and prostitution, are then examined, and shown to be without foundation (7 to 20); and the *harsh and unjust features* of the acts, and the *moral injury caused by them* are illustrated (21 to 32). The *constitutional objections* to the acts are next reviewed, and the injury to the cause of general liberty, and the special injustice to women are dwelt upon (33 to 47). The *medical aspect of the question is then entered upon* very fully, and the utmost care has been bestowed in endeavouring to make it a complete and, as far as possible, impartial and judicial investigation of the subject, *with the result* (as the author believes) *of showing that the Acts are a complete failure as regards the health of the Army and Navy and the prostitutes* (48 to 88). This section is very elaborate, and is brought down to the date of the latest official papers, viz.: the Army Report for 1872, and the Navy Report for 1873. The author then points out the *inconsistencies between the professions and the conduct of the advocates of the Acts* (89 to 95), and after stating the *amount of opposition* to them on the part of the public, *by petitions* (96 to 97), he mentions the *suggested substitutes for the Acts* (98). The "statement" concludes with an *abstract of the Report of the Royal Commission* (99 to 107), and an *appendix*, containing the evidence before the Commission on the hardening effect of the Acts upon the prostitutes, and details of medical evidence too long and detailed for the body of the paper.

The author of this "statement" desires to express the great obligation he is under to many friends for their criticisms, and especially to Joseph Edmondson, Esq., of Halifax, for his help in the examination and analysis of the figures and tables necessary for preparing the Section on Health. His aid in analysing the Army Medical Reports has been invaluable; and the author is indebted to him for the suggestion of the diagrams illustrating the course of disease in the protected and unprotected stations— (see frontispiece).

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STATEMENT.

1. IN the following Statement an attempt is made to record briefly and temperately the grounds upon which the Contagious Diseases' Acts are opposed, and also to put forward fairly the arguments adduced in their favour. Every statement contained in it is drawn from official documents and can be easily verified; or else from published sources indicated in the text. The latest Army and Navy Medical Reports, recent (1873) Parliamentary Papers and the Minutes of the Royal Commission have furnished the whole, with very few exceptions, as being the most easily accessible and the most unquestionable (especially the latter,) from the strict cross-examination to which the witnesses were subjected before the Commission.

Note.—Where numbers are given as references without comment in the following pages, they are always the numbers of the questions or answers in the Minutes of Evidence before the Royal Commission on the Contagious Diseases' Acts, vol. 2, 1871.

2. The Contagious Diseases Acts are opposed on Moral, Constitutional, and Medical Grounds.

3. Morally.—a. Because they are supposed by those for whose benefit they have been passed, and by the women subjected to them, to give a virtual government sanction to prostitution: and not only to recognize it as a fact, but to render it “difficult however to escape from the inference that the State has assumed that prostitution is a necessity.”—*Rep. Roy. Com.* s. 48.

b. Because they have elicited new forms of moral depravity in young children in the towns affected by them, (parag. 30), and they encourage licentiousness in men, under the supposition of State Security to Health. (Parag. 32, 49a, 120.)

c. Because whilst they legislate for man as if he was an object requiring extraordinary protection, they treat woman as if she was little more than an instrument for the satisfaction of male passions, and reduce the subjected women to a depth of moral degradation below that of ordinary prostitutes not subject to such enactments.—*See Appendix, parag.* 108.

4. Constitutionally.—Because whilst containing no provision whatever for the restraint or punishment of prostitution (unless diseased), or of seduction, or solicitation, or public indecency, they violate the first principles of Justice in urging the accused person to criminate herself, in depriving the accused of the ordinary safeguards for liberty provided by the law generally, and in disregarding the principle of equal justice for all subjects, by making one law for women and another for men—not for the punishment of crime committed by women alone, but for the protection of the men who share in the offence.

5. Medically.—Because (even if it be allowable to waive the foregoing serious moral and constitutional objections in consideration of great benefits to public health,) such exceptional legislation ought to be supported by the most indisputable proofs of its efficacy. Whereas the evidence furnished both by Government officials who are in favour of the Acts; by persons who are qualified to give an opinion and who are opposed to these Acts; and the experience of other nations in which similar legislation has been adopted, all shew that the asserted benefits to public health are open to the gravest doubts; that still greater sanitary improvement has been obtained without than with the Acts; and that there is strong evidence that the Acts have retarded instead of advancing the progress of improvement in the health of the Army and Navy, for the special benefit of which the Acts were first passed.—(Parag. 50 to 80.)

6. The Contagious Diseases Acts are defended on the ground that they are morally and physically beneficial to society; for it is asserted by their advocates that—

MORALLY—

They have reduced the number of brothels, *e.g.*, in Devonport, from 356 in 1865 to 121 in 1870; that they have annihilated juvenile prostitution; reduced the number of prostitutes (again in Devonport) from 1770 in 1865 to 557 in 1870; and they have raised the moral character and self-respect of the prostitutes by restoring them to their homes, and lessening solicitation in the street.

PHYSICALLY—That

They have materially lessened venereal disease in the protected districts.

ASSERTED MORAL RESULTS OF ACTS.

7. The Acts deserve no credit for the asserted moral improvements, for they do not contain a single provision against juvenile prostitution, or against brothels, (unless they are harbouring diseased women,) or against prostitution or solicitation, which, so far as the acts are concerned, may be practised in the most open and shameless manner, without any restraint upon the women, provided only that they are healthy. If the special police under these Acts, take any measures for the suppression of solicitation or any other of the open scandals of prostitution, they are exceeding the provisions of the Acts, which take cognizance only of the health and not of the behaviour of the prostitute. If the women registered under these Acts attend the examinations regularly, the police have no power under them to interfere in any way with their outward conduct. On the other hand, the local police under the ordinary Borough Police Acts have authority to prevent solicitation, and to preserve decency in the streets. Great credit is claimed for the Acts in consequence of the improved state of the streets, and the greater decorum of the women, both of which are simply due to the enforcement of ordinary police regulations. If the special police are able by exceeding their lawful powers to confer the benefits upon the women which are boasted of by the advocates of the Acts, it is equally in the power of the ordinary police to caution young girls as to the consequences of their conduct, and to assist in reclaiming confirmed prostitutes; and in this case, without going beyond their power, or exceeding the duty entrusted to them by the police laws.

It is even doubtful, according to Captain Harris, whether the special police under the Acts have legal power to enter brothels at all.

8. The evidence given before the Royal Commission shows that brothel-keepers are almost unanimous in favour of the Acts, and find them a source of gain and advantage.

9. But these returns of brothels, &c., are utterly fallacious, for the Government Inspector (Anniss) who is the sole authority for the figures, was compelled, in cross-examination before the Royal Commission, to acknowledge that from 1865 to 1868, he counted as a brothel every house that he SUSPECTED to be resorted to by prostitutes, while the number after that year was confined to houses frequented by REGISTERED prostitutes.

In Portsmouth, Inspector Westbrook (Qu. 11,105) says the number was 208 or 209 in 1865, before the operation of the Acts, and only fell to

195 in 1870 ; while in Chatham and Sheerness the number had actually increased from 45 to 65, and from 18 to 24—between 1865, before the Acts came in operation, and 1870, after they had done so.

10. *The Parliamentary Paper, No. 149, p. 13, 7th April, 1873, gives returns inconsistent with any material reduction of brothels to the present time:* “Return showing the number of public houses, beer houses, and brothels in the several districts on the 31st December, for each of the undermentioned years,” *i.e.*, 1865 to 1872.”

11. The ‘Public-houses’ giving accommodation to women for the purpose of prostitution were 83 in 1865, and 81 in 1872, but the ‘Beer-houses’ of similar character, were reduced from 196 in 1865 to 31 in 1872, whilst the ‘Private houses,’ giving similar accommodation, had risen from 458 in 1865, to 562 in 1872, (or above 100,) and ‘other’ brothels had risen from 12 in 1865 to 29 in 1872, *i.e.*, had more than doubled.

12. *On the other hand in the Metropolitan Police District, which is not under the Acts, the number of brothels had been reduced, by simple police action, from 2825 in 1857 to 2119 in 1868 ; and a particular and very bad class had been almost annihilated, being reduced from 400 in 1857 to only 2 in 1868.*

13. In Liverpool, which also is not under the Acts, but resembles Devonport and Portsmouth in being the first place of arrival of sailors from long voyages, the number of brothels has been reduced, by simple police action, from 777 in 1864 to 516 in 1873, or more than one fifth of the whole, notwithstanding the large increase of population during these nine years ; and the number of prostitutes has also fallen from 2343 in 1864 to 1381 in 1873, being a fall of above 41 per cent. notwithstanding the increase of population.—*Head Constable’s Report on Crime to the Town Council, 29th Sept., 1873.*

14. In contradiction to Inspector Anniss, who states that the local police had done nothing to reduce the brothels in Devonport, and that all the benefit was done by the Acts, the magistrates and local police gave evidence, that during the years in which such great reduction occurred, energetic action had been taken under the ordinary borough police acts against brothels and low beer-houses resorted to by prostitutes, and that the favourable result was due to the local police, and not to the Contagious Diseases’ Acts and the special police. (See parag. 20.)

15. **Reduction in number of Prostitutes.**—Similar criticism may be made upon this head also ; for the numbers stated by Inspector Anniss to the Royal Commission were so grossly exaggerated that they would have proved one woman in every nine, between the ages of fifteen

and thirty, resident in Devonport, to be a prostitute. No wonder that the magistrates and people of Devonport were indignant at such a slander, and in this case, also, Annis was obliged to confess that the number prior to 1869 were those who were *suspected* by the police, whilst the smaller number stated as having been produced by the Acts, were those only of *registered* prostitutes. In the Metropolitan Police District which is not under the Acts, the number of apparent prostitutes (according to Sir R. Mayne and Captain Harris.—Acton on Prostitution 2nd Edition, pp. 4. 6.) was reduced by simple police action from 8600 in 1857 to 6515 in 1868, or above 2000 in eleven years.

16. The number of juvenile prostitutes in Devonport alone, was stated by Inspector Annis to be 212 of 15 years old or under, in 1865, which was reduced by the Acts to 2 only of 16 years old, and not one under 15. If his wild statement was true, about one in every ten female children in Devonport between 13 and 15 years old was a prostitute in 1865.

17. The local police utterly denied the truth of his statement. He had no register of these girls or their ages, and nothing but conjecture to go by, and the local police stated that in their return there were only 20 prostitutes under sixteen (not 15) years of age in 1865. The evidence of the Devonport magistrates; of the lock hospitals throughout the country; and of the Rescue Society, confirms that of the local police, that such high statements are utterly unworthy of credit, and that the number of children practising prostitution is small.

18. In all the returns made by the officials under the Acts, their weight is seriously lessened by the temptation to make them appear favourable to the Government which upholds the Acts; and by the facility with which the numbers can be made large or small at pleasure, without intentional dishonesty. Every magistrate is aware how easily the statistics of drunkenness can be affected by the slightest hint to the police either to be stringent or not stringent in counting a man drunk; and the same variation in the statistics of prostitution will be the result of the special police *understanding* they are to be strict in registering and counting every prostitute and every brothel, or not to be too strict if the women are unobtrusive, and the houses are quiet and generally healthy. (For illustration see below.*)

*A note-worthy illustration is to be found in the Navy Report for 1872, Append. p. 9., sect. ix. and x. relating to gonorrhœa. In the general remarks with which the Report commences the following occurs at page 13 :—"Contagious Diseases Act.—The continued beneficial influence of the operation of the Contagious Diseases Act is now so fully recognised by medical officers, that they have almost ceased to make

19. The opponents of these Acts deny therefore the trustworthiness, even if not the truth, of the returns upon which so much stress has been laid, and urge that even, if correct, *the Acts* have not produced the beneficial results ; for they do not contain a single provision designed to reduce either brothels or prostitution generally. Whilst all the favourable results can be, and have been brought about by ordinary police regulations, without subjecting women to the unjust one-sided penalties of the Acts, and to the **compulsory examinations** ; which are of such a character that no advocate of the Acts would dare to stand up before a meeting of men, much less of women, and describe their nature and exhibit the instruments used—used not for the purpose of curing disease either known or reasonably suspected to be present, but simply for the purpose of ascertaining that the woman is fit to follow a vile occupation without risk to the health of the companion in her sin.

20. The Acts *may* not improbably reduce the number of *registered* prostitutes when registration involves the penalties attendant upon the Acts, and the detention in hospital and imprisonment for neglect of attending the examinations whether the women are well or diseased. This reduction is, however, made at the expense of increased clandestine prostitution ; and although the amount of this class cannot be proved from the very fact that it is clandestine, the evidence before the Royal Commission leaves no doubt of its increase ; and the experience of France and all other countries where similar Acts are in force is to the same

any direct allusion to it." This 'beneficial influence,' is, of course, to be looked for in the reduced amount of disease—as reported by these medical officers—and it is not unnatural that they should unconsciously try to make the Reports look as favourable as possible. Accordingly in the Report by Staff-surgeon John Cockin, p. 9, appendix. sec. ix. and x., he says :—'*The number shewn as having been put on the sick list by no means indicates the extent to which the disease affects the men of the corps. It is only the severe cases (of gonorrhœa) that become exempt from all duty—the greater part are put on the light duty list, and are not shown by the returns ; probably if all cases of this disease had been placed on the excused list, the number would have been trebled.*' This is no new method of preparing the Reports, for the Staff-surgeon of the Minotaur, Navy Report, 1871, p. 19, says :—'*The number mentioned does not include cases of gonorrhœa, of which disease also a number of cases were put on the sick list, and others were treated without being placed on the list.*'

A new regulation has lately been made by the War Office, which still further affects the value of the official returns of the amount of disease, and in fact renders them quite valueless for purposes of comparison after the middle of 1873. Under the new regulation a soldier who has contracted venereal disease has pay stopped, and is otherwise punished. The consequence is, naturally, that he seeks to conceal disease to the utmost of his power, and instead of reporting it to the Army Surgeon, he will either neglect it or seek for treatment elsewhere. The effect will be an *apparent* reduction of disease, the amount of which it is simply impossible to estimate, but which will make all comparison of disease in the army, before and after that date of no value."

effect. The Paris police estimate that there are six clandestine prostitutes for every one they can secure and place upon the register, and they are continually asking for more and more stringent powers to put a stop to this natural result of registration, with its attendant compulsory police terrors and constant instrumental examinations.*

21. The inefficiency of these and similar Acts to bring registered prostitutes to the periodical examinations; the "terror" which is necessary to accomplish this, and the increasing severity and brutality of such Acts and their administration, are shown by the history of the English Acts, and by the most recent work on this subject in Paris, lately published by M. Lecour, the Chief of the *Police Medicale* in Paris.

Mr. Sloggett, the Medical Inspector of Certified Hospitals, and a strong advocate of the Acts because of their alleged *moral* benefit to the women, informed the House of Commons Committee, that it was necessary to bring *punishment* to bear upon the women to enforce their attendance at the examination room, for *without that terror they would not come*.

An illustration of the fear of the examinations, &c., felt by the prostitutes in Portsmouth has lately been given by a Committee of the Corporation of Newport in the Isle of Wight, which petitioned the Home Secretary to extend the act to Newport, because of the increase of disease in the town, arising from the prostitutes being driven from Portsmouth by the severity of the Act, and taking refuge in the Isle of Wight. The full Corporation, however, refused to confirm the Memorial from the Committee.

A melancholy case has just occurred at Aldershot, in which an actress (a recent widow) and her daughter, aged 16 years, were served with a notice

* "The Administration has redoubled its activity, it has multiplied its acts of repression with regard to prostitutes, and it has definitely succeeded in maintaining in a satisfactory condition the sanitary state of public registered girls." And yet "*Sanitary Statistics prove that prostitution is increasing, and that it is becoming more dangerous to the public Health.*"—*La Prostitution à Paris et Londres*, 1st ed., p. 255 & 254.

"The number of clandestines is legion, and has considerably increased, which is beyond dispute." p. 254. "They are everywhere at the great peril of public health, a state of things which calls for active repression, but this is no easy task," p. 144. Lecour then describes the obstacles the police have to encounter, which do indeed appear insuperable, for the great object constantly in view with the clandestines is to keep clear of the police and of the detestable regulations, constituting slavery in its worst sense, of which the registered prostitutes in Paris are the subjects. He goes on, p. 256 "The condition of prostitution is changing, the number of brothels (*maison de tolérance*) is lessening, and will continue to do so, but *it would be a great error to think that public morality may rejoice at this*, for it is only a change of form. In the registered brothel there is a *sort of material pollution*, and men prefer, even at some risk, to enjoy something fresher—a better article. (*rôle*) p. 256."—*Lecour. La Prostitution à Paris et Londres*, 2nd ed.

to attend the Periodical Examination, because a soldier had been seen coming out of her house after twelve o'clock at night. She protested her innocence but without avail, gave up her engagement at the theatre in consequence, and left the town. Being unable to gain employment elsewhere she returned to Aldershot, and was again served with a notice to attend the examination, in her horror of which she told a friend she would die first, and committed suicide by drowning herself in the canal. On the inquest there was no evidence whatever adduced to show that she was a "common prostitute," or other than a virtuous woman until she was served with the notice, after which a fellow actor stated at the inquest that he undertook to be her "protector" in order to shield her from the police.—*Daily Telegraph*, March 12th, 1875. *Daily News*, March 30th, 1875. *Sheldrake's Aldershot Gazette*, April 3rd, 1865, for detailed report of the inquest.

22. The first Act imposed three months compulsory confinement in Hospital. This was not enough, so the second Act made it six months ; and as this also was found insufficient, the third Act—the one now in force—has raised it to nine months ; and for neglect of attending the periodical examinations, the first act inflicted two months imprisonment *without* hard labour ; but as this had not terror enough, the second act, now in force, raised it to three months *with* hard labour. M. Lecour, in his work abovementioned, (p. 317,) says that the registered women, during the German occupation of France, had to attend *twice a week* for examination ; and a surgeon-major of the Prussian army presided at the sanitary visits, and as the women received their tickets, "He warned the girl, so registered, that those among them who were unpunctual in their attendances or improper in their posture (*'inconvenantes dans leur attitude,'*) would be punished as in Berlin, and would be beaten with a stick." (*"Recevraient coups de baton."*) A climax in the "moral elevation" of these unhappy creatures at which we have not yet arrived in this country.

23. To show still further the moral benefit of the Acts, it is said that they raise rather than degrade the women brought under their operation.

Answer.

24. Their rise in their own estimation is borne out by the evidence before the Royal Commission. The women have risen to the rank of a profession ; the Government provides carefully for them, they are an important item in the service, and in India they are regularly ordered by the Commissariat for the supply of the soldiers, just as provender is

ordered for the horses.—(*See Dr. Ross and Lord Sandhurst's evidence before the Royal Commission.*)

25. As a consequence of these Acts the Queen's name itself has not escaped evil association, for they now call themselves "Queen's women," and are commonly known by that name in the subjected towns.

They have, therefore, naturally risen in their own estimation, and in that of the soldiers for whom the government is supposed to provide them ; but there is ample evidence before the Royal Commission of the degradation felt, and the hardening effect of the examinations upon the women, before they recognise their position and become accustomed to its penal consequences.—(*See Appendix to this Paper.*)

26. The Acts have the effect of creating a distinct profession, in which, when once entered, it is worth while for a woman to remain, because she can get higher pay and more comfort in food and dress, &c., as a registered than as an unregistered prostitute, and from which also it is increasingly difficult to escape, (*par. 46 and Appendix*) and the consequence is that the women do remain longer and longer in it. Previous to the Acts the average length of time that a woman continued to be a prostitute was about three or four years, according to the best information that can be obtained on such a subject, and it was comparatively rare for her to continue a prostitute after she was thirty years old, but the number has steadily risen year by year, as shown by the last official return.

Parliamentary Paper, No. 149. 7th April, 1873.

Year.	No. Registered.	21 to 26 Years Old.	26 to 31	31, and over 31.
1867	..... 2579 ...	853—33 per cent. ...	269—10·4 per cent...	87—3·37 per cent.
1868	... 2507 ...	804—32 „ ...	215 - 8·5 „ ...	101—4·02 „
1869	..... 2557 ...	977—38 „ ...	319—12·4 „ ...	163—6·37 „
1870	..... 2719 ...	1169—43 „ ...	425—15·6 „ ...	202—7·42 „
1871	..... 2411 ...	1036—42 „ ...	426—17·6 „ ...	212—8·79 „
1872	..... 2290 ...	1038—45 „ ...	450—19·6 „ ...	191—8·3 „
*1873	..... 2121 ...	936—44 „ ...	437—20·6 „ ...	210—9·9 „

Proving a steady increase, year by year. The per centage of women of 21 to 26 years old being increased about one-half ; 26 to 31 years old being doubled ; and 31 years and upwards being increased to nearly three-fold. Whilst one in ten continued in prostitution to the age of 26 years, and only one in thirty to the age of 31 years or upwards, previous to the Acts ; one in five now remains a prostitute to 26 years ; and one in ten, instead of one in thirty, continues to the age of 31 years or upwards, under the influence of the Acts.

27. The same Parliamentary Paper, No. 149, p. 4, col. 10, 11, 13, indicates the same result, since the last Act was passed ; for *Removals*

* Report of Commissioner of Metropolitan Police, 1873, p. 10.

from the Register, by "leaving the district," have fallen from 1558 in 1870 to 1169 in 1872; Removals by "marriage" have fallen from 157 in 1870 to 97 in 1872; and Removals by "return to friends" have fallen from 730 in 1870 to 606 in 1872. On the other hand, Removals by "entering homes" have risen 3·2 per cent.,* having increased from 244 in 1870 to 252 in 1872, whilst Removals by "death" are above three times as many as in 1866.

28. But we are told that "*the Acts are a moral benefit by reclaiming women, and restoring them to their friends or placing them in 'homes.'*"

Answer.

29. *The Acts do not provide a single home for women desirous of reformation*, and the Rescue Societies are unanimous in saying that reformation amongst the women is much more difficult now than before the Acts

Many of the reclamations said to have been the result of the Acts were effected by Rescue Societies and private effort, while others were proved before the Royal Commission to be most delusive. For women repeatedly discharged and re-registered were counted again and again as "reclaimed women." The large majority of those put down as "returned to their friends" were so entered, not because the government paid the expense of sending them home, but simply because the police lost sight of them, though they had no means of knowing whether they removed to another district or not. It is easy to understand improved behaviour and quietness in an hospital, which is practically a prison, whilst under treatment for actual disease; or in an undisputed prison, with hard labour, for refusing or neglecting to attend the "Examinations," but it is difficult to conceive what moral benefit is derived from the teaching of a government chaplain† on Sunday to flee fornication; when the women know that on Monday they will be examined by the government doctor, to see whether they are fit for fornication with safety to the soldiers, sailors and others, for whom the government is taking this beneficent care.

30. The moral injury produced by these Acts in the towns subjected to their operations, is shown by the evidence before the Royal

* A still more recent Parliamentary paper, No. 209, 15th May, 1873, prepared by Mr. Sloggett to show the "Moral effects of the Acts," is inconsistent with this report of increased removal to "homes," for it states (p. 5) that the number of patients sent to "refuges" was 222 in 1871, and only 225, (not 252,) in 1872, and still fewer, viz. : 221 in the year ending March 31st, 1873.

† See Appendix, Rev. J. Hawker's Evidence, parag. 123.

Commission, that the little children in some of the protected towns play at "Examination" in the open streets, and the nature and object of the examinations are openly discussed by boys and girls not exceeding eight years of age.

31. The women, as they go through the streets to the examination room, are the subject of cheers or gibes according to the character of the spectators. They used to show their certificates of health, (when these were given) as their government license; and when such certificates are not given, (as is now always the case) they state in their solicitation that certificates are unnecessary, the very fact of their being at large being considered sufficient proof that they are healthy, or they would be in hospital or in prison.

32. Men of almost every rank are waiting outside the examination rooms for the women who are allowed to pass out, as being safe for that day at any rate, or they would not be allowed to go at large; and the protected districts are resorted to by strangers for the purpose of safe indulgence.—See Report, Royal Commission, s. 48. (See also Appendix.—Mr. Richardson's Evidence, parag. 120.)

CONSTITUTIONAL OBJECTIONS.

THE ACTS ARE ALSO OPPOSED—

33. *Because they are flagrantly unjust and one-sided*; imposing upon women the gravest penalties from which men are entirely exempted; and this not for the commission of any crime on the part of the woman, but simply in order to render prostitution safe to the man.

34. By these Acts any poor or unprotected woman is liable, upon the mere suspicion, "good cause to believe," of a policeman in plain clothes to be summoned before a magistrate on a charge, which, whether well or ill-founded, is ruin to her reputation; for although the Acts say "common prostitute," no definition of the term is given, and the officers in carrying out the Acts interpret the term, in answer to question 43, "what do you mean by a common prostitute?" (Roy. Com). as meaning

"One or more proofs," *e.g.*, "solicitation in the streets," "residence in a brothel," "association with prostitutes," (as if every associate of prostitutes amongst the poor was a prostitute herself.)—*Superintendent Wakeford, Devonport.*

"Every woman that I know is a prostitute," *i.e.*, "who cohabits with different men."—Annis. Mr. Sloggett would not consider every woman a "common prostitute," although "occasionally guilty

of irregular conduct ;” but Superintendent Wakeford “ would bring under the Acts,” (*i.e.* brand with a disgrace that can never be removed—register as a “*common*” prostitute) “ a woman who obtains part of her livelihood by honest employment if she commits immorality with a man ;” or a woman who “ occasionally commits herself with men,” even though she is *not* a public or professed prostitute.

Annis would immediately put on the register a woman “ who receives men in a private way in her own house,” and prides himself on his skill in detecting private prostitution.

Mr. Parsons, in answer to the question “ Must a common prostitute be making her livelihood by it ?” says “ she ought to be ; but if you confine yourself to this definition, all I can tell you is that your Act will never succeed.

Inspector John Smith.—“ To what class of life do clandestine prostitutes belong ?” says, “ as a rule, labourers’ daughters’ and people of that class.”

And Dr. Barr says in answer to the same question, “ dressmakers, married women, the wives of labourers and small tradesmen, and *domestic servants of course.*”

Mr. Waylen, of Colchester, in answer to a question about clandestine prostitution in Colchester, says, “ I think there are a great number of young women who work in the factories and machine works, at whom the police have no means of getting.”

So that under these Acts the reputation and liberty of the “ wives and daughters of the labouring classes,” “ milliners,” and “ domestic servants of course,” and others described above, are placed at the mercy and the discretion, or indiscretion—the leniency or the thieftaking sharpness—of a single police spy, who is not required to bring his proofs to the test of cross-examination (367), but is simply called upon to satisfy a single magistrate, with his “ good cause to believe ” that the woman is a common prostitute according to his own interpretation of the term.—(See Parag. 38.)

35. Within the last few weeks in this town (Liverpool) a young woman was arrested by a police officer in Hope Street, on the charge of being a disorderly prostitute, on the accusation to this effect by a man whom the policeman did not produce as a witness, but who had given him “ good cause to believe ” to the effect. She refused to accompany him to the station, and another policeman was attracted to the place by the noise. As Liverpool is not under the Acts the policemen were not in plain clothes, and she took their numbers, and summoned the first for

an assault. She was proved before the magistrate to be a Restaurant waitress on her way home, after saying good night to a friend who had accompanied her part of the way, and the policeman was fined and severely reprimanded. Had Liverpool been a "protected" town she could not have taken his number, for he would have been in plain clothes; and had she been a less courageous woman she would easily have been frightened into "just going to see the doctor, and signing the **voluntary submission**, which would make it unnecessary to go before the magistrate at all," but which would have the effect (though this would not be explained to her by the policeman) of being an acknowledgment that she was a prostitute, of putting her upon the list of "registered prostitutes," and subjecting her to a vile examination by the surgeon *every fortnight* for twelve months, and sending her to prison, with hard labour, if she neglected to attend regularly.

36. Mistakes on the part of the police are not the only dangers arising from these Acts; for as they are in plain clothes it is easy for designing men to pretend to be special police, and fraud of this nature was the only explanation which the police could give of some cases of abuse brought before the Royal Commission, viz., that the abuses charged had not been committed by police at all, but by persons falsely pretending to be specials under the Acts.

That this is no imaginary danger is shown by a still more recent case in Dover—(*Dover Standard*, March 16th, 1872, and *The Times*, April 10th, 1872.) A private in the Army Hospital Corps, stationed at Canterbury, was brought before the Magistrates on the charge of having obtained money from Walter Harlow, who was out for a walk with a young woman, when the prisoner came up and said he was employed under the Contagious Diseases Act, and he must hand over the young woman to the civil power. The young man gave him money to buy him off. The Inspector said the prisoner was not employed in the manner he had stated, and he had applied to the Government to prosecute *as such cases were of frequent occurrence*. The prisoner was found guilty at the Canterbury Quarter Sessions, and sentenced to five years penal servitude.

37. The terrible disclosures at Lille, last year, were not an unnatural result of a system which invests police spies with such powers over the liberty and reputation of women, as those conferred by the Acts.*

* *Daily News*, February 12th, 1873, (condensed report).—"A German mechanic and his sweetheart were walking in the park near Lille, when three men rushed upon them in the disguise of 'special police,' and demanded money from the man and the

38. The Berlin correspondent of the *Daily Telegraph* (a paper favorable to the Acts,) writes Oct. 26th, 1872, "It is revolting to one's sense of right, that women walking quietly along the streets at any hour should be liable to be pounced upon by police in plain clothes, and carried off to prison, on suspicion of being 'no better than they should be.' *Such arrests are made every day and night here*, and no honest woman dares venture out alone after dark, lest she should be snapped up by policemen *en pékin*, from whom it will cost her a thaler or two to free herself, be she as immaculate as Diana herself. This state of things is peculiarly hard on the *bourgeoisie* of a city, where it has been the custom for many years that respectable girls and married women should go to the theatres and concerts by themselves, walking to and from their homes to save cab hire."

The latest Report (1873) of the Commissioner of Metropolitan Police shews what a reign of terror exists in the subjected towns amongst the classes of young women indicated in parag. 34, whether they are legally subject to the Acts or not; for it says, p. 6, "the presence of the officers employed is well known to the classes of girls most likely to go astray, and the dread of detection is very salutary; in proof of this, young women in the position of *domestic servants, and others*, after nightfall, *leave their male acquaintances directly* the police employed under the Acts appear in sight." That is to say a whole class of the community, which is neither charged nor suspected of any crime, dare not be seen with their male acquaintances after dusk for fear of being accosted by practically irresponsible police spies, even if not subjected to indignities that cannot be named, on the mere unsupported "good reason to believe" of these police in plain clothes. (*See parag. 35.*)

39. *The nature and object of the examinations to which the women are subjected under these Acts, are such as nothing but the selfishness of men, as the stronger and ruling power in the state, could ever have sanctioned.* As if men would ever allow an Act to be passed authorising the police to "register" as "a frequenter of brothels," every man who might be found in a bad house by a policeman in plain clothes who should make

gratification of their passion from the woman; if not granted they threatened to denounce the man to the French government as a disaffected subject, a communist. In the struggle, the man was garrotted and drowned in the river running by, but the woman happily escaped to some of the park keepers and gave the alarm. The ruffians were arrested, and the trial has resulted in showing that a gang of about twenty men have for four years carried on this system of terror and extortion. And one of the gang, an 'Octroi employé' who has been arrested, has boasted that 500 *Lille women* have passed through his and his accomplices hands during this period."

a descent upon it—the man being also obliged to go once a fortnight for twelve months to be examined by the surgeon, under the penalty of prison with hard labour for neglect—yet this is the law for women. And if it is replied that virtuous women do voluntarily submit to such examinations for the cure of disease, the reply is utterly beside the mark; for there is no similarity between a voluntary endurance of such an ordeal occasionally, for the relief of disease, with the power of immediate discontinuance, and a compulsory subjection to it week after week for months in succession, not for the cure of disease or relief of suffering to the patient, but for the purpose of seeing whether men may use her as a prostitute without danger to themselves.

40. *The soldiers and sailors who were formerly examined, object to be examined, because of the degradation implied by it; the medical officers consider it degrading to themselves to make such examinations of men, and the commanding officers do not enforce the examinations, because they lower the moral tone of the men. Yet the advocates of the Acts, whether civil or military, see no objection to, nor do the medical officers feel any degradation in imposing these examinations upon women.*

41. *The first principles of our constitutional regard for the liberty of the subject, are violated by these Acts, in the so-called “voluntary submission,” by which the woman is urged, and in many cases entrapped into criminalising herself. What the woman actually signs is simply, that “I, in pursuance of the above-mentioned Acts, voluntarily subject myself to a periodical medical examination by the visiting surgeon for (so many) months,” whilst the real result of this “submission” is that she is henceforth treated by the Acts as if she had been proved to be a common prostitute—and she becomes a “registered prostitute,” a blight upon her reputation which can never be removed, any more than the record of a conviction for felony from that of a man.*

42. Every registered woman is placed at the practically irresponsible mercy of the examining surgeon, who is constituted both witness and judge, and can commit her to an hospital (which is practically a prison) for nine months—and if she leaves it without his permission, or fails to attend the periodical examinations, she is sent to an actual prison for three months, at the end of which time she is sent back to hospital or is bound to complete her period (generally twelve months) as if she had not been imprisoned at all, unless the prison doctor gives her a certificate that she is free from disease. Four of the surgeons of the Royal Albert Hospital, Devonport, published the following protest on this subject:—

“We believe that to place in the hands of one man the power of first

examining a patient, and pronouncing her to be diseased, committing her to hospital, superintending her treatment while there, and then being the sole judge as to when she is cured, and therefore fit to be discharged, is in effect to constitute that one man both prosecutor, judge, and jailer; it is a power most liable to abuse, and if granted, must inevitably tend to interfere, in a most arbitrary and unnecessary manner, with the liberty of the subject."—*Letter to the Lords of the Admiralty from the Surgeons in charge of the Wards of the Royal Albert Hospital.* (Churchill & Sons, 1869, p. 22.)*

43. So utter is the disregard for the woman's liberty under these Acts, that if she is charged (on the policeman's "good cause to believe,") and her monthly period prevents her from being examined, the Acts order her to be *compulsorily confined* for five days, or until she can be examined, in hospital, where she may be subjected to solitary confinement in a prison cell on bread and water diet, for simple breach of rules or discipline whilst there. (19569-70.)

43a. The extent to which this compulsory confinement is liable to be carried is shewn in the "Letter to the Lords of the Admiralty, from the Surgeons of the Royal Albert Hospital." (Churchill & Sons, 1869, p. 30.) "To shew how great this power is we would direct your Lordships' attention to the fact that during thirteen weeks, ending August 28, 1869, a weekly average of 52 women came under this category." That is to say, a single irresponsible surgeon is able, under these Acts, to commit 52 women per week practically to prison for five days, without trial and without offence, except that it is technically "their poorly time."

44. A late official return, *Metropolitan Police Report*, 1873, p. 9, shews that above 230,000 of these examinations have been made, and

* By the Acts a nominal protection is given to the women in hospital by providing medical officers of various grades to be a check upon one another, to consult in cases of doubt, and to give the woman the right of appeal from one to another, if she thinks she is entitled from the state of her health to be discharged. But in practice this has been merely a nominal protection, as all the medical offices connected with the Acts, have been devolved upon a single surgeon, who has been, therefore, both visiting surgeon and inspector. The woman has also, under the Acts, the nominal protection of claiming to be taken before a magistrate if she thinks from the state of her health that she is entitled to a discharge and the medical officers will not grant it. But this protection also is, in practice, merely nominal from the difficulties in the way of a poor woman in hospital obtaining access to a magistrate, and being able to satisfy him that she is in good health, in face of the opposition of the hospital surgeon (3083-5, 5885-90, 13,966. 17.925)

205,323 of them were unnecessary for the health of the women, for they were perfectly free from disease !

45. *The woman is deprived under these Acts of all the ordinary safeguards of liberty provided for the lowest male criminal.* She is charged with no defined offence, for we have seen that there is no definition of "common prostitute," which is made to embrace almost every section of the lower ranks of women. Her accuser is not bound to produce any witnesses against her who can be subjected to cross-examination (367) She is seldom tried in open court; and whether proved innocent or guilty her reputation is damaged by the simple charge. She is bound to prove her innocence, not her accuser to prove her guilt; and she has practically no appeal from the decision of a single magistrate, who has the power of awarding an amount of punishment, almost unexampled for a single magistrate, in the length of compulsory confinement in hospital; for when once in the hospital she can be detained under the 7th clause of the Acts, for nine months, and if she leaves it without permission she can be arrested *without warrant* and sent to prison with hard labour. And every obstacle that the law can provide is imposed by the Acts against her obtaining any remedy against any official, whatever his conduct towards her may have been, who pleads that he did it "in execution or *intended execution* of the Acts."*

46. *Almost insuperable obstacles are frequently thrown in the way of a woman's removal from the register when once placed upon it, whatever her conduct or circumstances may be.* Evidence on this head is contained in the minutes before the Royal Commission. Heading—"Registration, difficulty of getting off." The most recent case is one that occurred lately

* Report of Royal Commission, sec. 60.—"Many witnesses have urged that as well on grounds of justice as expediency, soldiers and sailors should be subjected to periodical examinations. We may at once reply that there is no comparison to be made between prostitutes and the men who consort with them. With the one sex the offence is committed as a matter of gain; *with the other it is an irregular indulgence of a natural impulse.*" So the woman who sells herself, whether "from absence of all previous moral training," from the desire for dress and theatres, &c., or simply from the pressure of want and even actual destitution, or "from the character of the dwellings in which many of the poor are compelled to reside," (*Report Royal Commission*, s. 65,) is below contempt, and deservedly forfeits all her rights as a woman and as a citizen; whilst the man who buys her may hold up his head and cast stones at her, for he is only doing what is natural though it may perhaps be rather "irregular."

In Venice it was the custom at one time, for a cowardly man of rank to hire a bravo to assassinate his enemy. These bravos were a degraded race. They "committed the offence as a matter of gain," but the men who hired them were honourable, and held a position in society; they only paid for "an irregular indulgence" of their "natural impulse" for revenge.

in Devonport, where it attracted great notice, in which a sailor desired to marry a prostitute, but would not do so until her name was removed from the register. "He knew what she was and he would marry the woman, for he loved her, but he would not marry a 'registered' woman." She applied to the surgeon of the hospital, who has the power by the Acts to remove a woman from the register, but Inspector Annis influenced him not to do so; and policeman Ford tried his utmost with the man himself by calling him "fool," &c., to prevent him from carrying out his wishes. Annis also refused to remove her from the register himself, and the girl was at length brought before the magistrates by the police in consequence of neglecting to attend the examinations, when these circumstances came out. Yet the advocates of the Acts claim great credit for them in restoring women to their friends, and to the paths of virtue.

47. *Everything in these Acts, taken along with the overwhelming evidence before the Royal Commission, shows that its Report accurately stated their true object, which is not to lessen or to reduce brothels; it is not to protect the young, the weak, or the friendless; it is not to raise the moral character either of the men or the prostitutes; it is not even, honestly, to prevent the spread of disease amongst the community, for men are excluded from the penalties of the Acts, and both in the army and navy, they are in practice, exempted from sanitary examinations. But their object is strictly (in the words of the report) "to render the practice of prostitution much less dangerous." And in the attempt to accomplish this object the moral sense of the nation has been shocked, prostitution has been raised to the rank of a profession, and the constitutional safeguards of English liberty have been taken away from a large section of the public, a section of all others least able to protect itself, viz. :—poor and friendless women.*

The Premier of England, the Right Hon. Benjamin Disraeli, M.P., not long since uttered the following noble description of British liberty:—"The *working classes* of this country have inherited personal rights which the nobility of other nations do not possess. Their *persons* and *homes* are sacred; they have no fear of arbitrary arrests or domiciliary visits." Can this be truly said while these laws remain on the Statute Book, and the *daughters* of the *working* classes ("domestic servants and others," in parag. 38) dare not be seen walking with their male friends after dusk, but leave them "directly the police appear in sight" for *fear of arbitrary arrest*; while women (if they are poor and without protection) are urged to criminate themselves, under the provisions of these Acts, and after having simply signed a promise which contains no acknowledgment

of guilt, are forthwith branded for life as *registered public prostitutes*, on the unsupported “good reason to believe” of a disguised policeman; and while such women are liable to *arrest without warrant, and imprisonment with hard labour*, if, on discovering the nature of the examinations to which they are to be compelled to submit, they neglect or refuse to subject their bodies to these examinations, made, not for purpose of relieving them from disease, but to see that they are in a safe state for the miserable market for which they have been entered upon the Register?

ASSERTED BENEFITS TO HEALTH.—ARMY.

The following is a brief Summary of this Health Section :—

For several years before the first Act was passed great improvement had been taking place in the health of the army in EVERY form of venereal disease.—*See Paragraph 49, 50.*

In one form (gonorrhœa) there has been an increase throughout both army and navy, which continues to the present time.—*See Parag. 49, and Table 80c.—Home and Mediterranean.*

The improvement in health in one of these forms of disease (primary venereal sores) still continues upon the whole, but with a very diminished rate.—*See Diagram.*

Secondary or constitutional syphilis—the most important form of all—fell largely before the Acts, and *has risen permanently* since the Acts.

In the British navy throughout the world the health of the sailors occupies a more unfavourable position in these forms of disease in the home and Mediterranean stations than in those stations which are not under laws similar to the Contagious Diseases Acts.—*See Paragraph 80c. g. h. k.*

The ratio of disease amongst the registered prostitutes has increased 20 per cent. since the Act of 1866; and the ratio of deaths amongst them has doubled since that date.—*See Paragraph 84—86.*

NOTE.—The following section shewing the complete failure—and worse than failure—of the Acts as a sanitary measure for the health of the Army and Navy and Registered Prostitutes was presented to Government last Autumn; it was then brought before a large meeting of the Medical Profession in Liverpool, and was immediately afterwards published to the Profession at large. Up to the present time no contradiction of its proofs of failure has been given by either the Army or Navy Government Authorities. No reply was attempted in the Liverpool Medical Institution Meeting. The Medical Journals have not challenged the proofs of failure as applied to the Army or Navy as a whole; and the only attempts made to refute them have been unauthenticated statistics, put forward by various private medical officers, of the amount of disease in a few picked regiments generally for a few months at a time. Even these picked statistics, when examined, have proved to be no evidence of the beneficial sanitary results of the Acts. The detailed controversy on these statistics is contained in the numbers of the *British Medical Journal* for Oct. 31, Nov. 14, 28, Dec. 5, 19, 26, 1874, and Jan. 23 to April, 1875.

48. *The Acts are said to have materially reduced the amount of Venereal Diseases in protected towns.*

Answer.

49. *For several years previous to the Acts, these diseases had been steadily diminishing throughout the whole army under the influence of*

many combined agencies, such as increased care for the soldiers generally, the establishment of libraries, the cultivation of harmless or useful and intellectual pursuits, greater personal cleanliness by lavatories, &c., and it is an important feature in the discussion, that the *rate of decline was immediately checked on the introduction of the Acts in some of the garrison towns, and has never recovered itself, whilst the amount of Contagious Diseases actually increased in others.*

Comparison of the amount of Disease before and since the Act:—

HOME ARMY.

BEFORE THE ACTS.

SINCE THE ACTS.

AMOUNT OF DISEASE.

Primary Syphilis in the Home Army fell from 119·17 per 1000 in 1861, to 78·53 per 1000 in 1866; above one-third, or an average of 6·77 per 1000 yearly.

It rose 8 per 1000 in 1867, but has fallen upon the whole from 78·53 per 1000 in 1866, to 68·94 per 1000 in 1872; *i.e.*, not quite one-eighth, or 1·37 per 1000 yearly, instead of 6·77.

Secondary Syphilis fell from 31·26 per 1000 in 1861, to 23·39 per 1000 in 1866, or one-fourth.

It rose 2·87 in 1867, or one-ninth, and is now (1872) higher than it was in 1866; and *the average* of the 6 years since the Act is *one-twelfth* higher than before it was passed.

Secondary Syphilis was 1 case in every 3·45 of Venereal Sores, on the average of 8 years before the Act.

It has risen to one case in every 2·93, on the average of 6 years since the Act.

Gonorrhœa fell from 111·66 per 1000 in 1861, to 98·43 per 1000 in 1866, or one-eighth.

It rose 14·2 per 1000 in 1867, or above one-seventh. It is now 0·31 per 1000 higher than in 1866, and is *higher in the protected than the unprotected stations.*

THE CONSTANTLY SICK.

From the *Syphilitic Group* (*i.e.* Primary, Secondary, and Bubo) fell from 15·95 per 1000 in 1861, to 10·76 per 1000 in 1866; *i.e.* one-third, or 1·04 per 1000 yearly.

The mode of keeping the army returns has been changed, and an exact comparison cannot be made; but the *constantly sick* from *Primary Syphilis* even in the *protected stations* has only fallen from 5·09 per 1000 in 1868, to 4·56 per 1000 in 1872; or only 0·13 per 1000 yearly, just one-eighth of the annual fall throughout the whole unprotected army before the Act.

From the *Gonorrhœal Group* (*i.e.* Gonorrhœa, Swelled Testicle, and Stricture) fell from 7·5 per 1000 in 1861, to 5·43 per 1000 in 1866, or above one-fourth in 6 years.

There are no means of ascertaining the ratio of constantly sick since the Act, owing to the changed method of keeping the army returns; but as Gonorrhœa has increased it is not to be supposed that the constantly sick from it have diminished.

THE INVALIDED.

From *Secondary Syphilis* were 7·19 per 10,000 in 1866.

From *Primary Syphilis and Gonorrhæa*, the number is so few as to be of no value in the question. Often not one case in a year.

They were 7·81 per 10,000 in 1872, or increased one-twelfth.

NAVY—HOME STATION.

BEFORE THE ACTS.

AMOUNT OF DISEASE.

Primary Syphilis was 53·4 per 1000 in 1866. Its previous proportion is not given in the navy report.

SINCE THE ACTS.

It was 39·5 per 1000 in 1873, or a *fall* of one-fourth in 7 years, which is a smaller fall than in any other navy station where there has been a fall, and there are many, In the Mediterranean station, which is also protected, it has *nearly doubled* since the Act.

Secondary Syphilis was 15·7 per 1000 in 1866. Amount not previously given.

It was 15·3 per 1000 in 1873. A *fall* of one-thirty-ninth in 7 years.

Gonorrhæa fell from 34·8 per 1000 in 1862, to 20·4 per 1000 in 1866, or two-fifths in 5 years.

It has *risen* from 20·4 in 1866, to 51·1 per 1000 in 1873, or *much more than doubled*. It has also *doubled* in the *protected Mediterranean* station.

THE CONSTANTLY SICK.

From *Primary Syphilis* were 6·3 per 1000 in 1866.

From *Secondary Syphilis* were 1·4 per 1000 in 1866.

From *Gonorrhæa* were 0·9 per 1000 in 1866.

Fell to 4·1 per 1000 (or one-third) in 1873.

Rose to 1·7 per 1000 (or one-fifth) in 1873.

Rose to 3·3, or above three-fold, in 1873.

THE INVALIDED.

From *Secondary Syphilis* were 1 per 1000 in 1866.

From *Primary Syphilis*, no cases in 1866.

From *Gonorrhæa*, no cases until 1871.

Rose to 1·4, or above a third, in 1873.

Have averaged 5 cases per annum since 1866.

9 cases in 1872, and 6 cases in 1873.

It appears therefore that in the Home Army and Home Navy *Primary Syphilis* has not fallen one quarter as fast in the Army since the Act as before it, and that the fall in the Home Navy is less than in any other station in the world, whilst it has doubled in the Mediterranean. The *constantly sick* fell largely in the army before the Act,

though the proportion cannot be accurately stated. They have scarcely fallen since the Act in the army, but have fallen one-third in the navy.

Secondary Syphilis fell one-fourth before the Act, but has risen one-twelfth since in the Home Army. It has fallen one-thirty-ninth in 7 years in the Home Navy. The *constantly sick* from it have risen one-fifth in the Home Navy, but there are no means of finding its effects in the Home Army. The *Invalided* from it have increased one-twelfth in the army and risen by one-third in the navy.

Gonorrhœa fell one-eighth before the Act in the Home Army, and two-fifths in the Home Navy, and the *constantly sick* fell one-third in the army. It has doubled in the Home and Mediterranean stations in the navy, and has increased in the army; and the *constantly sick* have risen above three-fold in the Home Navy.

49a. The reduced rate of decline and even the increase of disease are easily accounted for, by the opinion which naturally gained ground amongst the soldiers, that "prostitution would be rendered much less dangerous," (Report, Royal Commission s. 13); "that amongst men it was merely an irregular indulgence of a natural impulse (Report s. 60); and also that the Acts were passed by the government "for the purpose of furnishing clean girls for the army and navy." (Report, s. 55.)

50. The rates of fall are shown by Dr. Balfour's report to the House of Commons Committee, (Ho. Com. Evid. page 88.) showing the admissions into hospital per 1000 of mean strength for Venereal Diseases, at various stations for the 9 years 1860-8.

Stations.	1860.	1861.	1862.	1863.	1864.	Before the Acts.
DEVONPORT AND PLYMOUTH. }	440	470	367	351	289	Fall in 5 years of 151 in 440, or $\frac{1}{3}$
Acts first applied,						
	April, 1865.		1866.	1867.	1868.	
360 { immediate rise of 71 }		317	312	280	Fall in 4 years of only 9 from 1864.	
	Before the Acts. (4 years.)					Under the Acts. (3 yrs.)
	1860 to 1864.					1865 to 1868.
PORTSMOUTH	503 fell to 337.	Fall of 166 in 503, or $\frac{1}{3}$.				329 to 348. Rose 19 !!!
CHATHAM AND SHEERNESS. {	Before the Acts. (4 years.)				Under the Acts. (3 years.)	
	1860 to 1864.				1865, 1866, to 1868.	
	351 to 313. Fall of 38 in 351, or $\frac{1}{10}$.				292 (rose to 326.) 275 fall 17 in 292, or $\frac{1}{17}$	
	Before the Acts, which did not come into operation until July, 1868.					
	1860 to 1867. (7 years.)					1868.
SHORNCIFFE	327 to 215.	Fall of 112 in 327, or $\frac{1}{3}$.				297 immediate rise !!!
	Before the Acts. (6 years.)					Under the Acts. (2 years.)
	1860 to 1866.					1867. 1868.
WOOLWICH	473 to 219.	Fall of 254 in 473, or $\frac{1}{2}$.				255, immediate rise. 191.
	Before the Acts. (6 years.)					Under the Acts. (2 years.)
	1860 to 1866.					1867. 1868.
ALDERSHOT.....	339 to 233.	Fall of 106 in 339, or $\frac{1}{3}$.				261, immediate rise. 237.
	higher than 2 years previously.					

Another return from the War Office (Minutes of Royal Commission, append. b. p. 815,) shows the effect of venereal Diseases on the efficiency of the army at home, during the ten years from 1860 to 1869.

RATIO OF CONSTANTLY SICK PER 1,000.

Previous to the Acts.	Under the Acts.
1860—23.73.	1865—18.14.
1861—24.70.	1866—16.
1862—22.32.	1867—17.95.
1863—20.31.	1868—17.82.
1864—19.11 or a fall of 4.62.	1869—14.87 or a fall of only 3.27.

Here again the rate of fall was reduced throughout the army on the introduction and during the operation of the Acts.

51. Before the Royal Commission, Dr. Balfour said (16,073) "Primary venereal sores and gonorrhœa are the only two forms (of disease) likely to be affected by the Act as applied to individual stations, because the secondary diseases may have been contracted elsewhere, or contracted there and developed elsewhere; therefore to judge of the operation of the Act, it is better to confine our attention to the two forms of disease,—primary venereal sores and gonorrhœa."

52. First, Gonorrhœa. On this disease Dr. Balfour's evidence before the Royal Commission was as follows:—

16,267. "But, as far as gonorrhœa goes, which is the more frequent disease, the country has not derived the benefit which was expected from the Acts in diminishing it?" "No."

16,268. "So far as gonorrhœa is concerned the Acts may be considered to be a failure?" "So far as gonorrhœa is concerned the operation of the Act has not reduced the number of cases, I think."

16,269. "Then we may consider, with respect to gonorrhœa, that the machinery thus established is found to be fallacious, that it has not diminished the disease within your cognizance?" "Yes."

In the Army Medical Report for 1872, p. 12, Dr. Muir thus confirms the opinion expressed in 1869:—"It must, therefore, be admitted that so far as appears from the evidence furnished by the Returns, but little influence has as yet been produced on the prevalence of gonorrhœa." "The fact remains that the average ratio.....from 1865 to 1872 was higher at the protected than at the unprotected stations." *So that the case in favour of the Acts, as far as Gonorrhœa is concerned, may be considered as given up by their best informed supporters.* (See parag. 100, 101, 102.)

53. Second. "Primary Venereal Sores, or that form of venereal disease which is likely to be followed by constitutional effects, have been much reduced by the Acts," according to Dr. Balfour; but *whether these sores are truly syphilitic or not it is impossible to judge from the published official returns*; for all forms of venereal sores are classed together as "primary venereal sores," a term which embraces everything from a true chancre capable of producing hereditary results, to the most superficial and unimportant abrasion of the skin. Before the Act was in force, however, *secondary syphilis* fell one-fourth in 6 years, but since it was in operation it *has risen largely, and the average of the whole period is one-sixteenth higher than before the Act was introduced. It is evident, therefore, that the true syphilitic element in these "venereal sores" has increased*, and any reduction in this heterogeneous class is merely in superficial unimportant sores.

Mere superficial sores may, however, disable a soldier from duty, and be important on this account in the opinion of the Army Authorities, but they have no weight whatever in estimating the influence of the Acts upon the constitution of the patient himself, and upon that of his innocent wife and helpless children, for whose protection the Acts have been so much lauded.

The actual influence of these primary venereal sores upon the efficiency of the army, and also the effect of the Acts upon them, are far less than would be supposed from the manner in which they have often been spoken of. In the Army Report for 1872, p. 10, it appears that the number of men per 1,000 admitted into hospital for primary venereal sores in 1866, in the Stations under the Acts, was 90·5; in 1868 it was 72·1; and in 1872 it was 54·2 per 1000. Most of these cases were, however, so slight as to be soon discharged, for another table in the same page shews that of the 72·1 per 1000 in 1868, there were only on the average 5·09 daily in hospital, or "constantly sick" as they are termed in the table; and calculating upon the same scale the ratio would be 5·63 per 1000 daily in hospital in 1866, or 1·07 per 1000 more than in 1872. *It appears therefore that the improvement even in the "Protected" Stations consists in 1 man per 1000 being at his barrack duties and on parade in 1872 more than in 1866, even assuming that the Act is entitled to claim the whole of the reduction—the very point which is disputed in this "Statement," and as about 50,000 men are "under the Acts" the actual gain of efficiency since 1866 is 50 men per annum in an army of 70,000 men, as the return to the nation for the violation of its most cherished constitutional privileges, the inauguration of a principle of one-sided injustice for the*

weaker party—and of a system of police espionage and terror (see parag. 38), and the other moral and constitutional evils attaching to these Acts.

53a. *There is no evidence whatever to show that the Ratio of Annual Reduction, is greater under the Acts than before them; or that the reduction is not owing to those moral and sanitary arrangements for the army which have been operating concurrently with the Acts, and are still progressing. These various improved arrangements are uniformly ignored by the supporters of the Acts, who persist in ascribing the whole of the reduction in disease to the Acts. (Parag. 56.)*

54. As to the reduction of Primary Venereal Sores in the army, the statistics in the Army Medical Reports leave no doubt, though the previous rate of reduction has been seriously lessened since the Act, and *true* syphilis has increased, as is shewn above; but it is important to examine the grounds on which Dr. Balfour has come to the conclusion that *the Acts have reduced* even the unimportant sores. These grounds are set forth in Parliamentary Paper No. 208, dated 14th May, 1873, which contains the following tables and comments upon them:—

55. “Tables showing the Admissions into Hospital for Primary Venereal Sores and Gonorrhœa at twenty-eight Stations of Troops in the United Kingdom in each year.

A.—“NOT UNDER THE CONTAGIOUS DISEASES ACTS.

YEAR.	Average Strength.	Primary Venereal Sores.	Gonorrhœa.	Ratio per 1,000.	
				Primary Venereal Sores.	Gonorrhœa.
1864	60,681	6,590	6,828	108.6	112.5
1865	55,167	5,346	6,253	99.9	113.3
1866	49,150	4,469	4,882	90.9	99.3
1867	36,439	3,936	4,794	108.0	131.6
1868	34,311	3,662	4,406	106.7	128.4
1869	27,401	3,066	2,809	111.9	102.5
1870	17,852	2,022	1,723	113.3	96.5
1871	19,957	1,865	2,137	93.4	107.4
1872	19,950	2,457	2,113	123.1	105.9
TOTALS of 8 Years	260,227	26,823	29,117	—	—
Average, 1865-72.	32,528	3,353	3,640	103.1	111.9

B.—“ UNDER CONTAGIOUS DISEASES ACTS.

YEAR.	Average Strength.	Primary Venereal Sores.	Gonorrhœa.	Ratio per 1,000	
				Primary Venereal Sores.	Gonorrhœa.
1865	7,392	887	1,039	120·0	140·5
1866	10,161	920	1,676	90·5	164·9
1867	24,061	2,076	3,150	86·3	130·9
1868	27,770	2,001	3,515	72·1	126·9
1869	32,355	1,972	3,513	60·9	108·6
1870	41,580	2,268	4,081	54·5	98·1
1871	54,096	2,76	6,254	52·0	115·6
1872	50,794	2,752	5,280	54·2	104·0
TOTALS of 8 Years	248,210	15,639	28,508	—	—
Average, 1865-72,	31,026	1,955	3,563	63·0	114·8

a. “ These Tables show clearly the operation of the Contagious Diseases Acts ; they comprise the results obtained from the returns of 28 Stations in the United Kingdom, being all the Stations at which the force was 500 men and upwards.”

b. “ In 1864, the year in which a Contagious Diseases Act was first passed, and the year before it came into operation, the admissions into hospital at these 28 Stations were in the ratio of 108·6 for primary venereal sores, and 112·5 for gonorrhœa, per 1,000 of mean strength. In 1872 the admissions were 54·2 and 104·0 respectively at the 14 Stations under the operation of the Act, showing a reduction of 54·4 per 1,000 in primary venereal sores, or that form of disease which is likely to produce great constitutional deterioration, and of 8·5 per 1,000 in gonorrhœa.”

c. “ Again, if the average of the eight years during which the Acts have been in operation be taken, it will be seen that at the Stations not under the Act, in an average force of 32,500, the ratio of admissions for primary venereal sores was 103·1 per 1,000, and for gonorrhœa, 111·9 per 1,000 ; while at the Stations under the Act, in an average force of 31,000 men, the proportions were 63·0 and 114·8 per 1,000 respectively. These results show a difference in favour of the Stations under the Act of 40·1 per 1,000 in the case of primary venereal sores, and an excess of 2·9 per 1,000 in cases of gonorrhœa.”*

* See parag. 62 et seq.

56. Now the natural and almost inevitable inference from the foregoing paragraphs in Parliamentary Paper 208 is, that there have been throughout two sets of stations of 14 each (parag. 60) enumerated in the Army Medical Report, 1871, p. 8, practically identical with each other at first in the conditions of health, and in all important respects except that the Acts have been applied to one set of stations and not to the other: and further that the Acts have been applied to all the stations of one set during the whole period of eight years; and lastly, that the difference in the amount of disease in the two sets of stations at the end of the time is therefore exclusively due to the operation of the Acts. This inference has, indeed been drawn by such intelligent and experienced men as Mr. Curgenven and Mr. Berkeley Hill, who have circulated a fly-leaf extensively on behalf of the Association for extending the operation of the Acts, in which they quote these paragraphs from this Parliamentary Paper for the purpose of showing that "*the striking contrast between the protected and the unprotected stations completely disproves the assertion, that any diminution of disease is due to causes independent of the Acts*" (parag. 53a). *WHEREAS* in fact, previously to the passing of the Acts, the stations of one set differed so widely in their character, from those of the other in matters relating to health, that in the Army Medical Reports before the Acts were passed, Dr. Balfour placed London and Windsor, and Dublin, in so many separate columns for the general health returns, because they could not be classed together or associated with any other set of stations. He also classed Sheffield and other towns as "large manufacturing towns," having their special features, whilst some towns were classed as "arsenals," others as "dockyards," others again as "camps," and so on; shewing clearly, that before the Acts were thought of there were such differences amongst these several sets of towns as to prevent their being associated as resembling each other.

57. So far also from the Acts having been applied throughout to one set of stations and not to the other, they were in operation in three only of the fourteen stations in 1865, in four of them in 1866, in five in 1867, in eight in 1868, and not in the whole fourteen until 1870.

58. It has been already stated (parag. 49, 50) that for many years previous to the passing of the Acts venereal diseases were declining rapidly in the army, but the rate of decline was remarkably different in different stations. In those which may be called military towns as distinguished from the manufacturing or non-military ones, the rate of fall was much the most rapid and uniform even before the passing of the Acts, (and therefore quite independent of them,) and such has continued to be the

case since they have been in operation. But as this subject will be more fully considered in a subsequent paragraph, it is here alluded to only briefly. (See parag. 67.)

59. *Again the ratio of disease has been so widely different in different stations, as to make it impossible to compare them together.* For example, Maidstone with a very small garrison, had a ratio of 242 per 1,000 in 1867, which was reduced 114 per 1,000 in two years, though not under the Acts. Whilst in Devonport and Plymouth (under the Acts) which had a ratio in the same year (1867) of only 76 per 1,000, it was impossible to have such a reduction, and therefore, comparison between them as—one being “Under the Acts” and another “Not under them,” is manifestly out of the question. The only mode that can bring out fair and trustworthy results as to the effects of the Acts, is to compare the amount of disease in each separate station before and since the Act was in force; and the statistics of venereal sores for 1860, '61, '62, and '63, and for gonorrhœa for 1871 and '72, kindly furnished by the War Office (as they are not contained in the Army Returns) enable us now to do this, which was not possible when the first edition of this “Statement” was presented to the Home Secretary. The Diagrams shewing this comparison are placed as the Frontispiece to this edition.

60. ADMISSIONS INTO HOSPITAL PER 1,000 OF MEAN STRENGTH FOR PRIMARY VENEREAL SORES.

This Table is compiled from the statistics for Primary Venereal Sores for 1860, '61, '62, and '63, kindly furnished by the War Office, and from the Army Reports for 1868, p. 258' and for 1872, p. 8, 9.

STATIONS under Acts.	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	Date when Act applied.
Devonport & Plymouth...	159	199	146	124	110	133	82	76	66	74	58	50	59	10 Oct., '66
Portsmouth...	188	167	130	107	121	113	100	116	86	62	51	41	40	8 Oct., '66
Chatham and Sheerness...	106	102	90	94	88	86	83	71	63	41	47	65	49	6 Nov., '66
Woolwich ...	186	138	133	96	80	76	89	88	46	52	43	58	60	6 Nov., '66
Aldershot ...	128	147	116	110	105	100	81	81	77	63	67	65	62	12 April, '67
Windsor	Combined with London.							58	136	93	67	78	96	1 April, '68
Shorncliffe ...	131	122	65	81	82	68	57	42	77	60	100	30	33	24 July, '68
Colchester ...	169	134	158	130	118	107	173	145	182	85	42	32	55	27 Jan., '69
Winchester...	121	99	159	101	111	72	46	52	104	101	61	29	57	6 Jan., '70
Dover	152	150	103	98	90	67	90	132	111	80	30	24	47	19 Jan., '70
Canterbury ..	82	142	106	136	68	77	117	119	114	45	152	38	43	21 Jan., '70
Maidstone ...	106	34	22	80	37	177	139	242	122	128	68	44	57	15 Feb., '70
Cork	120	118	109	96	76	86	49	72	61	73	68	55	62	June, '68
Curragh	171	143	109	122	129	97	77	104	85	88	56	35	50	Dec., '69

STATIONS not under Acts.	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	
Isle of Wight.	89	86	107	48	74	32	11	59	103	129	64	66	57	
London and Windsor:—								*						
Foot Guards }					192	162	178	171	173	144	142	126	171	Foot Guards.
Household }	132	146	131	149										
Cavalry. . }					48	50	58	45	50	29	41	52	56	Hld. Cavalry.
London alone.	.....	.....	.....	.....	.....	.....	.....	163	148	144	160	190	199	Comb'd forces
Warley .....	.....	89	75	127	52	97	79	74	92	61	55	57	66	
Hounslow ...	119	133	95	88	45	23	21	62	106	85	88	45	90	
Pembroke Dk.	70	69	48	52	65	83	31	28	35	51	54	28	27	
Sheffield	167	97	133	75	56	94	106	163	107	146	77	126	98	
Manchester...	116	231	176	93	104	127	92	177	115	160	92	70	98	
Preston	133	82	54	56	99	85	75	87	87	172	134	75	114	
Edinburgh ...	118	97	70	106	66	112	58	63	46	60	99	69	43	
Fermoy	103	64	36	64	34	44	36	70	47	116	89	33	56	
Limerick.....	123	120	139	160	129	71	48	117	114	54	136	57	100	
Athlone	88	139	51	43	145	155	42	85	38	42	44	47	14	
Dublin.....	186	144	124	160	179	150	126	129	139	180	128	117	165	
Belfast	133	158	91	83	109	46	74	89	56	52	43	61	78	

* Windsor was separated from London in this year, but the ratios have been continued to show the relative amount of disease between the Foot Guards and Household Cavalry.

61. SUBJECTED AND UNSUBJECTED STATIONS COMPARED.

(See Diagrams and Comments at Frontispiece.)

62. It is surprising that Dr. Balfour has not himself discovered or pointed out a *singular error running through the tables in Parliamentary paper 208, which makes them absolutely valueless as a basis for the conclusions in the three paragraphs quoted.* It arises from the mode of construction of the tables, and is inherent in them. In the column headed "Average Strength" in the table "Not under the Acts," the numbers decrease year by year, while in the table "Under the Acts," there is a corresponding increase of about the same amount. Thus it is evident that as the stations were brought under the Acts, they were removed from the former table to the latter. The effect of this process may be seen by taking a series of imaginary stations of 1,000 men each, having different ratios of disease (as is the case in real stations), and treating them in the same way as in the first table in Parliamentary paper, 208, thus—

63. RATIO OF DISEASE PER 1,000. "NOT UNDER THE ACTS."

Station.	1st Year.	2nd.	3rd.	4th.	5th.
A	160	160	160	160	160
B	140	140	140	140	transferred.
C	100	100	100	transferred.	
D	80	80	transferred under Acts.		
E	60	transferred under the Acts.			
	<u>5/540</u>	<u>4/480</u>	<u>3/400</u>	<u>2/300</u>	<u>1/160</u>
Averages	108	120	133	150	160

Here it would appear that the ratio of disease had *risen* in the stations not under the Acts, from 108 in the first year to 160 in the last, whereas it had, in fact, been absolutely stationary.

64. But these various stations might have been transferred in a different order as shewn in the following table :—

RATIO OF DISEASE PER 1000, "NOT UNDER THE ACTS."

Station.	1st Year.	2nd.	3rd.	4th.	5th.
A	160	transferred under the Acts.			
B	140	140	transferred.		
C	100	100	100	transferred.	
D	80	80	80	80	transferred.
E	60	60	60	60	60
Average	$\frac{5}{540}$	$\frac{4}{380}$	$\frac{3}{240}$	$\frac{2}{140}$	$\frac{1}{60}$
	108	95	80	70	60

From which it would appear that the ratio had been *reduced* from 108 in the first year to 60 in the last. So that the ratio of disease in these 5 stations, "not under the Acts," may appear to have risen from 108 to 160, or to have fallen from 108 to 60, according to the order in which the stations are removed and placed under the Acts, without their being in reality the slightest change in the ratio of disease in any one of the stations concerned.*

It is not asserted, nor is there the slightest intention to imply that Dr. Balfour has transferred the Stations in such an order as to favour the Acts. It is possible that the order of transfer may actually have told against them, but such is the nature of the error, sometimes raising and sometimes lowering the averages, which influences every year in the tables (except the last, in which there were no transfers from one table to another) and renders the conclusions drawn in the Parl. Paper, as to the influence of the Acts upon these two sets of stations, so fallacious as to be without value in deciding the sanitary question at issue between the advocates and the opponents of the Acts.

65. It has been previously stated (parag. 56) that the general conditions influencing the stations "Not under the Acts," such as Manchester,

* The "Formula" which applies to all cases of transfers from one set of stations to another is the following :—If the ratio of disease in the station transferred is higher than the average, the ratio in the remaining stations will appear to fall. If the ratio of disease in the station transferred is lower than the average, the ratio in the remaining stations will appear to be raised. The converse is the case with the table to which the transfers are made.

Preston, and Sheffield, &c., are such as to render it impossible to make any fair comparison between them and the strictly military towns like Chatham and Portsmouth; and this is remarkably shown in the *Fluctuations of Disease* in these two sets of towns. For example, in *Manchester* in 1860, the ratio of venereal diseases of all kinds was 289 per 1,000 of mean strength. The following year it *rose* 198, the next year it *fell* 32, and the following year it *fell* 125, whilst the next year it *fell* only 16, its fluctuations being year by year, 198, 32, 125, 16, 68, 70, 189, and 189, ranging from 198 to 16, on an average ratio of 376 per 1,000.

In the *manufacturing towns*, collected as a distinct class in the Army Medical Report, the fluctuations in a single year have been from 127 to 3, on an average ratio of 344 per 1,000. On the other hand, in the *seaports* (comprising Plymouth and Portsmouth, &c.) the fluctuations were only from 88 to 4, on an average ratio of 361 per 1,000. In the *camps* the fluctuations were from 38 to 5, on an average of 308 per 1,000. And in the *dockyards and arsenals* the fluctuations were from 44 to 5, on an average of 278 per 1,000.

When these numbers are reduced to the same ratio, they stand as follows :—

Manchester	198 to 16.
Manufacturing Towns.....	127 to 3.6.
<hr/>	
Seaports	88 to 4.
Camps	38 to 5.
Dockyards and Arsenals.....	44 to 5.

66. There is evidently therefore some controlling influence in operation in what may be called the military towns, which is not so effective in the non-military towns, for the fluctuations either of increase or decrease are not half so great in the military as in the non-military stations. But as the advocates of the Acts attribute the difference in favour of the military towns exclusively to the operation of these Acts, it is necessary to examine their comparative condition before the Acts were in operation at all, *i.e.*, before 1865, the year in which the first Act came into very limited operation. The fluctuations for the years 1860-1-2-3-4, were as follows :—

Manchester	198 to 16.
Manufacturing Towns.....	69 to 3.6.
<hr/>	
Seaports	88 to 13.
Camps	30 to 5.
Dockyards	44 to 16.

Shewing that before the Acts were passed at all the fluctuations were above twice as great in the non-military as in the military towns, and shewing the operation of some controlling force in the military towns quite independent of the Acts which were not in existence.

67. A comparison of the *change in the amount of disease in these two classes of towns, previous to the passing of the Acts*, shews how much this influence, whatever its nature may be, had also reduced the amount of disease, for the ratios were :—

“Manufacturing } in 1860, 363...in 1864, 300 = decrease of 63 per 1,000.
Towns.”..... }

“Seaport Towns”	„	452...	„	305 = decrease of 147	„
Camps	„	353...	„	313 = decrease of 40	„
Dockyards and } Arsenals..... }	„	399...	„	257 = decrease of 142	„

Seaports, Camps, and Dockyards—Average decrease, 110 per 1,000.

Shewing that this influence had reduced the ratio of disease nearly twice as much in the military as in the non-military towns, before even the first and least stringent Act was passed. And yet the opponents of the Acts are told that the tables in Parliamentary Paper 208, prove incontestably the beneficial operation of the Acts (parag. 56), whereas the difference here shewn to have existed before the Acts were passed simply continues, and the troops in the military towns suffer less from disease than the same troops in the non-military towns.

These Army Medical Reports furnish a very cogent argument for enquiring what the influence is in the military towns which operated so beneficially before the Acts were passed, and still apparently continues to do so; but they furnish no proof that it is the influence of the Contagious Diseases Acts, which were not passed for years after the beneficial results had been obtained, which are shewn in this paragraph.

68. The diagrams of venereal diseases present to the eye in a striking manner the proof of what has been already suggested, if not plainly stated, in this argument, viz. :—*That the course of venereal diseases, whether of all kinds, of gonorrhœa, or of primary sores, has not been perceptibly influenced by the Acts*—that when they were declining before the Acts were introduced, they continued to decline after they were brought into operation, (only in general with a diminished ratio of fall,) and that the general course of disease, in its fluctuations, continues without any apparent change on the introduction of the Acts.

69. See *Diagrams, Frontispiece.*

70. The diagrams are formed from statistics kindly supplied by the War Office for the purpose of this enquiry, and printed in the table at the end of the Appendix to this "Statement;" from tables in the Army Returns for 1868, p. 258; and for 1872, p. 8, 9; and from tables in the Minutes of Evidence Royal Commission on the Contagious Diseases Acts, p. 812, 813, and shew the course, amount, and fluctuations of both primary venereal sores and gonorrhæa for the years indicated in the diagrams, which are fully explained in the letterpress accompanying them.

71. The Royal Commission in its Report 1870 says, "There is no distinct evidence that any diminution of disease among the men of the army and navy, which may have taken place, is attributable to a diminution of disease contingent upon the system of periodical examination among the women with whom they have consorted," and the Report recommends the discontinuance of the periodical examinations.

72. These conclusions are corroborated by the result of similar regulations in India. Mr. A. C. C. de Renzy, Surgeon and Sanitary Commissioner of the Punjaub, says in his report to the Government:—"The results of the measures that have been taken for the last four or five years for the prevention of venereal diseases in this country, *afford us no ground for congratulation*. In the last five years little short of five lacs have been spent on the prevention of venereal, a sum which would have provided Peshawur with an abundant supply of pure water, and rendered it impervious to epidemic cholera. *And after all there is no where any substantial sign of permanent improvement.*" See append. : E. Indies and Cape of Good Hope.

The *Times of India*, August 8th, 1871, states that after immense expenditure the total results in India "*are contemptible.*"

The official documents then, when rightly analysed, exhibit alike at home and abroad, only the failure of these Acts as sanitary measures for the Army in every form of venereal disease. See append. Malta, Gibraltar, and the Piræus, India, Cape of Good Hope, and Hong Koug.

NAVY.

73. Analysis of the Naval Health Report, 1872. This Report has lately been published, and as it lays prominent stress upon the efficiency of the Acts in the Navy, and some of its statements

made in large type have been extensively quoted by advocates of the Acts, without sufficiently careful reference to the detailed reports in the body of the Report, it is necessary to examine it carefully.

74. At page 13 the Report says –“The continued beneficial influence of the operation of the Contagious Diseases’ Act on the force at the various Home ports is now so fully recognised by medical officers that they have almost ceased to make any direct allusion to it. Whenever it is referred to it is mentioned in the highest possible terms, and the only regret expressed is that the Act is not more extended in its application. A large proportion of the disease that exists in protected ports is readily traced to importation from unprotected districts; and if these could only be reached by legislation strictly carried out, there appears to be little doubt that the more destructive forms of disease might be almost altogether stamped out.”

75. *On referring, however, to the detailed Reports, it appears that there has been an increase, compared with the previous years, in every form of venereal diseases in nearly every station.*

76. TABLE showing the increase of all forms of venereal diseases. TOTAL FORCE (page 348). There were 2,135 cases of *primary*, and 859 cases of *secondary syphilis* under treatment during the year, being an increase in the ratio of primary disease to the extent of 9.8 per 1,000, and of secondary disease of 3.1. There were also 3,724 cases of *gonorrhœa*, *epididymitis*, and *swelled testicles* (p. 350), being an increase of 525 cases upon the previous year. (Navy Report for 1871, p. 363.) This number does not, however, represent nearly the whole amount of gonorrhœa, in consequence of the practice of some, at any rate, of the Medical officers, of not putting down slight cases of gonorrhœa in their returns. (See note on parag. 18.)

INDIVIDUAL STATIONS	PRIMARY SYPHILIS.	SECONDARY SYPHILIS.	GONORRHŒA, SWELL'D TESTICLES, &c.
Home, p. 12.19	Increase 8.0 ‰ 1,000.	Increase 3.1 ‰ 1,000	Increase 15.3 ‰ 1,000
Mediterranean, p 55.59	„ 18.4 „	Reduction 0.9 „	„ 17.0 „
North American and West Indian, p 90.96	“Ratio almost unchanged.”	Increase 10.3 „	Reduction 2.2 „
South-East Coast of America, p 123.126	“Considerable increase Syphilis is exceedingly prevalent, although the houses are under strict Government surveillance.”	Considerable increase.	No ratio or comparison given in the report.

INDIVIDUAL STATIONS	PRIMARY SYPHILIS.	SECONDARY SYPHILIS.	GONORRHOEA, SWELL'D TESTICLES, &c.
Pacific Station, p 144,154	Increase 4.4 ‡ 1,000.	Decrease 3.0 ‡ 1,000	No ratio given.
Africa and Cape of Good Hope, p 177...	"But little information is furnished by the medical officers with regard to these affections."		
East Indian, p 216,224	"Slight increase."	"Trifling reduction."	Decrease 15.5 ‡ 1,000
China, p 249,261.....	Increase 47.1 ‡ 1,000	Increase 18.1 ‡ 1,000	Increase 33.5 ‡ 1,000
Australian, p 287,293	„ 25.6 „	Decrease 3.4 „	No ratio given.
Irregular Force, p 318,321	„ 1.5 „	Decrease 2.2 „	No ratio given.
MARINE DIVISION.			
Eastney Barracks and Fort Cumberland, p 6,9 appendix	"A few more cases than usual."	Considerable increase.	Slight cases, not shown by the returns.
Forton Barr'ks, p 16,17	"Increase of 30 cases."	Unchanged.	"Increase of 24 cases."
Plymouth, p 22,24 ...	"4 below last year."	No report.	Considerable increase.
Chatham, p 28,29 ...	"Increase of 41 cases."	No report.	"About the same as last year."
NAVAL HOSPITALS.			
Haslar, p 73* App'nd.	"Marked increase of more than 100 in the two forms of syphilis."		Increase of 159 cases upon last year.
Plymouth, p. 87, 90, Appendix	"Venereal Disease accounts for a large portion of this increase, viz:—187."†		170 more cases than last year, or nearly one third more.
Melville Hospital Chatham, p 104,105, Appendix	"Increase of 60 over last year."		About the same.
Haulbowline, p 111, 115, Appendix	<i>Surgical</i> officers' report gives no comparison in any of the forms of disease, the number of cases altogether was small. <i>Medical</i> officers' report "marked diminution."		

*Table showing the total number of all forms of venereal diseases in Haslar Hospital, during the past 6 years, shewing a steady increase of disease during last 4 years—

1867	1868	1869	1870	1871	1872
1249	833	612	642	629	886

† Notwithstanding this increase of Venereal Disease of all kinds, and the Report from the Plymouth "Marine Division" that the amount of disease was only less by a single case, though the number of men was less by 142 than the previous year, and

77. Notwithstanding the increase of venereal diseases of all kinds thus shown to have occurred in nearly every station, the Navy Report at page 348, trying to account for the increased ratio of all forms of disease in the *total force*, says—"this increase is almost altogether due to the great spread of primary syphilis in Japan, consequently on the temporary shutting up of the Yoshimara and Lock Hospital at Yokohama." (A sort of Contagious Diseases' Acts suspension.) "There was also a considerable increase at the Cape of Good Hope, consequently on the repeal of the Contagious Diseases Act there." It is sufficient, in reference to this explanation, to refer to the preceding table, and to add that the actual amount of disease reported from the Cape of Good Hope was eight cases of gonorrhœa during the three months the Acts were suspended. In the previous year there had been 13 cases. The Japanese influence on the increase throughout the *total force* must be estimated by noticing that the change only existed during two months in the year, that Yokohama is only one out of numerous ports on the China station, including Singapore, Shanghai, Hong Kong, Nagasaki, and others; and that in page 251, Nagasaki is spoken of by the Staff-surgeon there as follows:—"Venereal disease is the bane of Japan, and Nagasaki its source." Yet the removal of "protection" for two months in one single station in Japan, and the occurrence of 8 cases of gonorrhœa in the Cape of Good Hope, after the repeal of the Contagious Diseases' Acts there, are gravely put forward in the Report as "almost altogether" accounting for an increase of disease amounting to nearly 10 per 1,000 throughout the whole world where the British Navy is stationed.

78. Acknowledged Failure of the Contagious Diseases' Acts to prevent disease in the Navy.

Malta, p. 55. "The working of the Contagious Diseases' Acts at Malta does not prevent the contracting of disease by our seamen and marines." Yet Malta is, of all conceivable stations, the most favourable for such Acts, and has been put forward as an example of how the disease has been "entirely stamped out" by Sir Henry Storks.

that six-sevenths of the primary syphilis was contracted in the district (parag. 79), and the Report from the Plymouth Naval Hospital, (p. 87, Appendix, 1872,) "that the admissions exceeded by 386 those of the preceding year; Venereal Disease accounts for a large portion of this increase, viz.:—187." Notwithstanding these things, the Navy Report publishes in large type (p. 14, 1872). "The Act for the protection and examination of these poor creatures still continues to flourish and work good works. Regardless of its enemies and opponents it still protects us from an overwhelming number of cases of disease.

Gibraltar, p. 55. "I was surprised to find that Gibraltar affords such facilities for contracting the disease."

Galatz, p. 55. "The Anti-Contagious Diseases' Law in Galatz appears to be generally effective." Yet it was here and in Malta that the larger number of cases occurred, which swelled the Mediterranean average, as shown above (parag. 76).

Monte Video, p. 123. "Syphilis is exceedingly prevalent, although the houses are under strict government surveillance."

Valparaiso, p. 145. The Medical Officer in charge describes Syphilis as "the scourge of ships at Valparaiso," not being under any Contagious Diseases' Acts. He says, however, "I have observed but little syphilis in merchant ships in comparison with what I have attended here. I can only attribute this to the less systematic debauches in which these men indulge, as compared with seamen of the navy." So that it is not the presence or absence of a Contagious Diseases' Act, but the character of the men that saves or ruins their health.

Chatham, p. 28, Appendix. The Deputy-Inspector General reported on the great increase of disease in this protected town.

Eastney Barracks and Fort Cumberland, p. 6, Appendix. Protected. Increase of all forms of disease is reported with this addition—"It is clear that the Contagious Diseases' Acts are not carried out with anything like the necessary stringency." Greater stringency is the universal cry of their advocates, in order to remedy the failures which are the experience of all nations where the Contagious Diseases Acts have been tried.

79. Alleged importation of disease from unprotected into protected places. The Navy Report says (p. 13)—"*A large proportion of the disease that exists in protected ports is readily traced to importation from unprotected districts.*" It is necessary to enquire what foundation for this statement the Report itself exhibits.

Malta.—Large increase of disease. If importation is practicable here where can it possibly be prevented?

Gibraltar.—Importation asserted, but no figures given in proof (p. 55.)

Galatz.—Under strict surveillance, but the Cockatrice had 16 cases—all contracted in Galatz.

North American and West Indian Station, p. 90. Primary syphilis in the "*Plover*." Eleven cases in all—2 in Barbadoes, 2 in Bermuda, 2 in Halifax, 1 in Hayti, and 4 in Kingston (the only

protected place amongst them) where the ship lay much longer than in the other stations. The Medical Officer writes, p. 91 :—

This result, comparatively in favour of Kingston, must be attributed to a regulation which limits the freedom of diseased women. No importation, however, from unprotected places.

Plymouth, Marine division, p. 22, App. “68 cases of primary syphilis, of which 58 were contracted in the district,” i.e. six-sevenths acknowledged to have been contracted in the highly protected towns.

Plymouth, Naval Hospital, p. 88. App. “In 133 cases the disease was contracted in the district, and in 86 in various parts,” i.e. five in the protected town, and three imported.

Chatham, p. 28, App. “209 cases admitted; the number from protected districts was 183,” i.e. nine-tenths of the whole.

The writer of this “statement” has been unable to find any other data in the Report.

SUMMARY.

80. The statement, then, that “*a large proportion of the disease is imported*” is shown from the Report itself to be without justification, and the Report also shows, when carefully examined, that ‘so far from the Contagious Diseases Acts producing a reduction in venereal diseases the rise in the protected stations is very great. The whole naval force exhibits an increase of disease, and the Acts have proved as great a failure in the Navy, as they have been shown to be in the Army.*

80a. Analysis of the whole of the Navy Health Reports since 1866, (the date of the 2nd Contagious Diseases’ Act) in connection with the proposed extension of the Acts to all the Mercantile Ports.

Since the foregoing Analysis of the Navy Health Report for 1872 was in type, Mr. Gray, speaking as the Representative of the Board of Trade, and with an appearance of government authority, made the following statement at a recent Meeting of Shipowners in Liverpool:—“Another point to be considered was whether the provisions of the Contagious Diseases’ Acts should not be applied to every mercantile marine port. He was strongly of opinion that they should, and *he was sure they would have to do it.*”—(*Liverpool Daily Courier* and other Liverpool daily papers, Sept. 9, 1874.)

*The inconsistency between the general assertions in the Report, and the data upon which they ought to rest, strikingly confirms the note on p. 27 of this “statement” relating to the Navy Reports. See also foot note, page 41.

80b. Such an apparently authoritative speech renders it additionally necessary to enquire what proof the Acts can give of sanitary efficiency in the past to warrant the proposal to extend them still further : and in order to obtain the requisite data, the statistics of disease in every station of the British Navy throughout the world, from the date of the Act of 1866 to the latest Navy Health Report, have been collected in the following table, and other information bearing upon the subject in the Navy Reports is added to it. The statements about to be made are taken exclusively from these official sources.

DESCRIPTION OF STATIONS.

80c. The Home Station is characterised by the letter P, as being the most highly protected of all.

The Mediterranean Station is also characterised by P, as being very highly protected, viz., at Malta, (the very model of a protected place) at Gibraltar, and "all the garrison towns," at Galatz, and the Piræus.

The N. American and W. I. Station is marked PP, as being *partially* protected, at Kingston, Jamaica ; St. Johns, N'land ; and Barbadoes.

The South East American is marked NP, not protected, though there has lately been supervision of prostitutes at Monte Video.

The Pacific is PP, partially protected, viz., at Honolulu.

The W. Coast of Africa, NP, was not protected to 1868 ; since that date it has been joined to the C. of Good Hope, and was partially protected at Cape Town and Simon's Bay until 1872, when the Acts were repealed in the Cape Colony. C. of Good Hope and E. Indian, NP, not protected to 1868, when the C. of Good Hope was transferred to W. Africa.

E. Indies, PP, partially protected, viz., at Bombay since 1870. Act repealed in 1872. China, PP, partially protected, viz., at Hong Kong since 1857, and at Yokohama since 1867.

Anstralian (embracing New Zealand) NP, not protected.

Irregular Force, scattered all over the world, and so circumstanced that very little information of practical value can be derived from statistics connected with it.—Navy Health Report, 1872, p. 318.

80d. CLASSIFICATION OF STATIONS.

P.—Highly protected.—The Home and Mediterranean.

PP.—Partially protected in different degrees, as shewn above.

N. American and W. Indies, Pacific, W. Coast of Africa and Cape of Good Hope, East Indies, and China.

NP.—Not protected.—S. E. America, W. Coast of Africa, Cape of Good Hope and East Indies, and Australia.

80e. TABLE SHUEWING THE RATIOS OF VENEREAL DISEASES PER 1000 OF MEAN STRENGTH SINCE THE ACT OF 1866.

STATION.	1866	1867	1868	1869	1870	1871	1872	1873	CHANGES.
HOME.—P. Primary Ven. Sores	53·4	44·1	37·1	42·1	38·4	35·8	43·8	39·5	HOME. Ven. Sores reduced $\frac{1}{4}$.
Gonorrhœa	20·4	22·2	32·4	38·7	48·9	50·3	61·6	51·1	Gon. more than doubled.
Orchitis	15·7	17·2	15·5	13·6	12·6	7·1	6·9	6·3	
Epididymitis .....	..	..	..	..	..	5·7	6·3	5·7	
MEDITERRANEAN.—P. Primary Syphilis	24·0	30·0	47·5	38·5	36·2	34·5	52·9	42·4	MEDITERRANEAN. Ven. Sores nearly doubled.
Gonorrhœa	14·8	15·6	18·7	25·9	26·2	29·5	47·4	31·9	Gonorrhœa doubled.
Orchitis	15·9	17·5	15·1	11·5	10·4	17·7	10·9	8·9	
Epididymitis .....	..	..	..	..	..	5·5	8·3	4·4	
NORTH AMERICAN AND WEST INDIAN.—PP. Primary Syphilis	56·1	37·5	68·0	35·1	39·0	39·5	39·9	30·0	N. AMERICA & W. INDIAN. Ven. Sores reduced nearly $\frac{1}{2}$.
Gonorrhœa	15·4	20·0	26·9	35·1	25·7	27·1	29·3	25·3	Gonorrhœa nearly doubled.
Orchitis	23·4	19·0	17·0	16·2	14·5	7·1	11·6	9·3	
Epididymitis .....	..	..	..	..	..	10·7	4·7	9·3	
S. E. AMERICAN.—NP. Primary Syphilis	30·0	30·9	15·5	6·4	13·4	7·5	16·6	26·9	S. E. AMERICAN. Ven. Sores nearly stationary.
Gonorrhœa	13·3	15·0	15·5	6·4	5·9	11·3	34·8	26·9	Gonorrhœa doubled.
Orchitis	11·6	7·0	14·5	5·3	10·4	7·5	4·5	3·1	
Epididymitis .....	..	..	..	..	..	1·8	6·0	..	
PACIFIC.—PP. Primary Syphilis	70·2	96·8	54·7	75·9	38·5	73·1	77·5	47·0	PACIFIC. Ven. Sores reduced $\frac{1}{2}$.
Gonorrhœa	18·8	27·8	34·5	36·9	44·7	41·7	49·0	29·4	Gonorrhœa increased $\frac{1}{2}$.
Orchitis	19·6	21·6	19·4	16·7	19·0	9·7	7·0	11·7	
Epididymitis .....	..	..	..	..	..	5·1	11·5	8·2	
W. COAST OF AFRICA.—NP. Primary Syphilis	35·7	22·0	20·6	..	..	..	..	..	W. COAST OF AFRICA. Ven. Sores reduced nearly $\frac{1}{2}$.
Gonorrhœa	32·1	15·1	27·5	..	..	..	..	..	Gonorrhœa reduced $\frac{1}{2}$.
Orchitis	16·0	18·6	13·2	..	..	..	..	..
W. COAST OF AFRICA & CAPE OF GOOD HOPE.—PP. Primary Syphilis .....	..	..	..	1869*	11·9	13·0	1872**	21·5	W. COAST OF AFRICA AND C. OF GOOD HOPE. Ven. Sores stationary.
Gonorrhœa .....	..	..	..	54·3	52·9	43·8	50·7	26·7	Gonorrhœa reduced $\frac{1}{2}$.
Orchitis .....	..	..	..	21·9	29·1	14·6	12·5	10·7	
Epididymitis .....	..	..	..	..	..	1·5	12·3	6·2	
CAPE OF GOOD HOPE AND EAST INDIAN.—NP. Primary Syphilis	71·8	58·3	45·1	..	..	..	..	..	C. OF GOOD HOPE AND E. INDIAN. Ven. Sores reduced $\frac{1}{2}$.
Gonorrhœa	29·1	26·3	20·9	..	..	..	..	..	Gonorrhœa reduced $\frac{1}{2}$.
Orchitis	21·0	20·8	16·4	..	..	..	..	..
EAST INDIAN.—PP. Primary Syphilis .....	..	..	..	60·4	1870†	22·3	1872††	45·0	EAST INDIAN. Ven. Sores reduced $\frac{1}{2}$.
Gonorrhœa .....	..	..	..	30·8	39·4	12·9	20·6	42·2	Gonorrhœa increased $\frac{1}{2}$.
Orchitis .....	..	..	..	12·6	19·4	11·1	6·3	12·7	
Epididymitis .....	..	..	..	..	..	4·7	2·2	2·2	
CHINA.—PP. Primary Syphilis	93·8	100·9	1868†	91·4	103·7	57·3	104·4	107·1	CHINA. Ven. Sores increased $\frac{1}{2}$.
Gonorrhœa	26·4	30·6	45·7	51·1	49·5	38·6	64·4	58·4	Gonorrhœa doubled.
Orchitis	34·0	30·9	30·6	34·4	23·9	17·6	11·8	20·5	
Epididymitis .....	..	..	..	..	..	11·6	21·6	25·2	
AUSTRALIAN.—NP. Primary Syphilis	31·9	42·1	21·6	18·4	9·4	13·4	39·0	53·3	AUSTRALIAN. Ven. Sores increased $\frac{2}{3}$.
Gonorrhœa	15·9	28·4	24·8	44·7	38·8	63·4	47·2	55·3	Gonorrhœa tripled.
Orchitis	17·8	37·8	24·8	18·4	22·3	2·4	7·2	7·7	
Epididymitis .....	..	..	..	..	..	12·1	19·0	8·7	
IRREGULAR.—NP. Primary Syphilis	72·8	75·4	43·4	42·4	39·8	31·1	32·6	45·9	IRREGULAR. Ven. Sores reduced $\frac{2}{3}$.
Gonorrhœa	40·1	30·3	34·5	39·4	30·1	32·7	38·5	39·2	Gonorrhœa stationary.
Orchitis	24·2	21·6	17·7	19·1	16·6	11·4	9·4	10·5	
Epididymitis .....	..	..	..	..	..	6·5	6·4	7·8	

* Acts in force in Capetown and Simon's Bay. * Repealed. † Acts in force in Bombay
† † Repealed. † Acts in force in Hong Kong and Yokohama.

80f. *It is difficult to analyse the foregoing table in any way that can bring out sanitary results favourable to the Acts : for the highly protected Home and Mediterranean stations do not shew either the lowest average or the greatest proportionate reduction of disease, nor do the partially protected stations exhibit results favourable in proportion to the amount of protection ; on the contrary, the unprotected stations shew the smallest average amount of disease, and the greatest reduction in that originally existing.*

80g. Table of average amount of disease.

	PRIMARY SORES.	GONORRHOEA.
Highly protected...	38·2—41·8.	... 26·2—41·9.
Partially " ... {	17·7—43·2—45·5—	... 25·6—29·2—35·4—
	66·7—96·3.	... 45·6—45·7.
Unprotected ...	18·4—26·1—28·6—58·4.	... 16·1—24·9—25·4—39·8.
Aver. Health } Position. }	N.P. 29·7—P. 37·0—P.P. 45·1=N.P. 1—P. 1·2—P.P. 1·5.	

The *average* amount of disease tells, therefore, against rather than in favour of the Acts. The Home and Mediterranean stations occupy an intermediate position between the highest and the lowest.

80h. Changes in the proportion of disease. *The greatest increase in primary sores is in the Mediterranean, (P) where they nearly doubled in 8 years, and the smallest reduction is in the Home station, (P) when they fell only $\frac{1}{4}$ in 8 years, while in the then unprotected stations of W. Africa and E. Indies and in the Cape of Good Hope, they fell $\frac{1}{2}$, and $\frac{1}{3}$, the greatest reduction being therefore in unprotected stations, and the greatest increase in a protected one.* The greatest increase in gonorrhoea was in Australia (NP), where it trebled ; in the Home and Mediterranean Stations (P), where it doubled ; and in China (PP), and S.E. America (NP), where it also doubled. It fell $\frac{1}{7}$ and $\frac{1}{3}$ in two unprotected stations, and $\frac{1}{2}$ in one partially protected. *The changes in the amount of disease, therefore, do not tell in favour of the Acts.*

80i.—Comparative Severity of Disease.—It is, however, constantly stated by their advocates, that the Acts have reduced the severity of venereal disease in the protected districts, and this point is therefore examined in the following table. The opponents of the Acts do not question the abatement in amount or severity of disease ; on the contrary they assert that great improvement had been taking place for many years before the introduction of the Acts, and that these have rather checked than promoted the improvement. *If the Acts have really reduced the severity of these diseases, the average duration of sickness in the protected stations should be less than in the unprotected ones.* The following table will show whether this is the case or not.

80k. AVERAGE DURATION OF DISEASE IN DAYS.

Station. Primary. Ven. Sores.	Home. P.	Med. P.	North America and W. India. P.P.	S.E. America. N.P.	Pacific. P.P.	West Africa. N.P.	Cape of Good Hope and E. India. P.P.	China. P.P.	Aus- tralia. N.P.	
1866	43·4	40·8	33·5	39·0	37·2	33·1	27·3	36·3	24·1	Mediterranean, midway. It is a second best
1867	45·6	27·0	39·2	43·6	41·2	43·4	39·2	28·4	19·7	
1868	39·9	34·0	40·7	45·5	48·0	40·3	36·0	36·8	20·5	
1869	37·0	34·5	38·7	40·8	34·8	36·8	26·0	39·0	26·1	
1870	35·0	33·8	36·0	37·7	45·8	38·4	28·1	35·5	24·7	
1871	39·4	32·8	27·6	26·2	30·4	32·0	22·3	37·0	32·8	
1872	34·8	37·9	32·0	44·3	41·8	41·7	23·9	27·0	29·0	
1873	38·0	38·4	29·2	28·8	42·3	36·4	25·1	25·7	25·5	
Average...	8/313·1 39·1	8/279·2 34·9	8/276·9 34·6	8/305·9 38·2	8/321·5 40·2	8/302·1 37·8	8/227·9 28·5	8/265·7 33·2	8/202·4 25·3	
Relative health position ..	8	5	4	7	9	6	2	3	1	
*Gonorrhœa and Orchitis										Home, midway. Mediterranean, third.
1866	18·1	21·5	17·1	17·4	17·3	18·4	14·6	18·0	28·0	
1867	18·3	17·8	20·3	20·6	24·8	17·4	17·0	20·6	19·1	
1868	18·0	23·0	18·3	19·7	21·9	18·5	18·4	20·5	18·1	
1869	18·2	23·0	17·1	26·1	21·8	19·3	17·5	19·0	12·9	
1870	17·2	21·0	19·3	11·6	17·5	19·8	17·8	21·9	23·1	
1871	21·3	20·7	23·7	12·1	18·0	17·6	17·6	20·3	17·6	
1872	20·0	23·5	23·8	15·6	19·6	16·4	17·2	15·7	20·3	
1873	23·9	27·0	21·7	8·3	18·1	22·2	17·4	17·2	19·7	
Average...	8/155·3 19·4	177·5 22·2	161·3 20·2	131·4 16·4	158·0 19·8	149·6 18·7	138·0 17·2	153·2 19·1	158·8 19·9	
Relative health position ..	5	9	8	1	6	3	2	4	7	

It appears therefore from these tables, that as regards venereal sores, the *unprotected* Australian station occupies the *most favourable* position, and the *highly protected* Home station the *worst* but one; whilst as regards Gonorrhœa the unprotected S.E. American is the best; and the protected Mediterranean station is the worst in the list. In venereal sores the Mediterranean occupies a nearly intermediate position, as does the Home station in Gonorrhœa. *The protected stations therefore, when tried by the test of duration of sickness, fail to shew that the Acts have produced greater amelioration in the severity of disease in them than in stations not under their operation.*

80l.—Amount of invaliding from venereal disease in protected and unprotected stations.—When the severity of disease is tested by the amount of *invaliding*, the protected stations still fail to show any encouraging superiority over the unprotected ones, though

they occupy a more favourable position than when tested by the *duration* of disease. Whether this may be owing to sailors being invalided more readily Abroad than at Home, the writer of this "statement" is unable to form an opinion; but the fact is clear, that there is less proportionate invaliding at Home and in the Mediterranean stations than in many of the others. *Still, however, the unprotected stations hold their superiority over the protected ones*, for Australia and S.E. America occupy the most favourable position in regard to invaliding for venereal sores; and Australia is the first as regards Gonorrhœa also.*

80m.

INVALIDING.

Ratios per 1,000 Men invalided in	Home.	Med.	North Am'ca. and W.Ind.	S.E. Am'ca.	Pacific.	W. Africa.	Good Hope and E. Ind.	China.	Aus- tralia.
1866. Primary V. Sores...	·0	·0	0	0	0	0	·5	0	0
1867. „ ...	·3	·2	0	0	2·4	1·0	·4	1·0	0
1868. „ ...	·5	0	·4	0	1·1	1·6	1·9	1·8	0
1869. „ ...	·2	·2	·2	0	·8	0	·4	·8	0
1870. „ ...	0	0	0	0	0	0	0	1·4	0
1871. „ ...	·1	0	·6	0	·5	0	0	·9	0
1872. „ ...	·2	0	0	0	·5	0	0	·6	0
1873. „ ...	·1	·9	0	0	·5	0	0	·7	0
	1·4	1·3	1·2	0	5·8	2·6	3·2	7·2	0
Relative position.	4	3	2	1	7	5	6	8	1
	Gon Ore.	Gon Ore.	Gon Ore.	Gon Ore.	Gon Ore.	Gon Ore.	Gon Ore.	Gon Ore.	Gon Ore.
1866. Gonorrhœa and Orchitis	0 ·1	0 ·3	0 0	0 0	4 ·4	0 1·7	0 ·5	·2 ·4	0 0
1867. „	0 0	0 ·4	0 ·5	0 0	0 1·0	0 ·5	0 ·4	·2 ·5	0 0
1868. „	0 0	0 ·0	0 ·2	0 0	0 ·3	0 ·0	0 ·9	·0 ·4	0 0
1869. „	0 0	0 ·5	0 ·0	0 0	0 ·0	0 ·5	0 ·4	·2 ·0	0 0
1870. „	0 0	0 ·4	0 ·0	0 0	0 ·0	0 ·0	0 ·0	0 0	0 0
1871. „	0 0	0 ·2	0 ·6	0 0	0 ·0	0 ·7	0 ·0	0 ·3	0 0
1872. „	·3 0	0 ·3	0 ·6	0 1·5	0 ·0	0 ·0	0 ·0	0 ·0	0 0
1873. „	·2 ·2	0 0	0 ·3	0 0	0 ·5	0 0	0 0	0 0	0 0
	·5 ·3	0 2·1	0 2·2	0 1·5	·4 2·2	0 3·4	0 2·2	·6 1·6	0 0
	·8	2·1	2·2	1·5	2·6	3·4	2·2	2·2	0
Relative position.	2	4	5	3	6	7	5	5	1

* Gonorrhœa and Orchitis are added together, both in the last table and that about invaliding, because they are immediately connected in point of time. Stricture is omitted, because it is generally a remote result in point of time, and its origin may have no connection with the station where it is treated.

SUMMARY.

80n.—It appears, therefore, that whatever test of efficiency is adopted, the stations under the operation of the C. D. Acts fail to show their superiority in health over the others; for *the protected stations have neither a lower general average of disease, nor a greater proportionate reduction in the original amount, nor a more mitigated form of disease as judged of by the time required for recovery.* The one respect in which they have the advantage is in the smaller proportion of invaliding; though even here, two unprotected stations excel them, whilst in every other respect the unprotected stations carry off the palm. Unless therefore, some other test can be devised, which shall show such a superiority in the protected stations as to counterbalance their failure in all the above, their opponents are even more than warranted in saying that the Acts have entirely failed to establish their claim to success as sanitary enactments, or to justify the proposals to extend their operation to towns not now subject to them.

80o.—The question has been frequently proposed to the Author, “How is it that the results you have arrived at differ so completely from those of the Army and Navy Surgeons who see the state of the troops, and from the conclusion drawn by the Compilers of the Army and Navy Health Reports?”

The first point to be settled is—“Do the Army and Navy Reports, in fact, shew the sanitary failure of the Acts, by shewing that the Stations under their operation exhibit no better, but rather a worse health position than those places not under them?” The Author of this “Statement” thinks that this point is conclusively established by the forgoing statistics, taken exclusively from the official documents prepared by acknowledged advocates of the Acts, and he accounts for the different conclusions arrived at in the following manner.

“Common sense” appeared to indicate that some such legislation as the Contagious Diseases’ Acts would naturally reduce, if it did not extinguish Contagious Diseases, and the Medical Profession entertains this opinion to some extent, in which the Author himself so far shared, as to decline for some years to take any part against the Acts. Under this general impression it was easy for the “wish to be father to the thought” in the medical officers and others who had to assist in carrying out the Acts; and as there has been an undoubted abatement in Venereal Diseases within the last few years, any improvement in the Army or Navy was not unnaturally attributed, by the medical officers who witnessed it, to the influence of these Acts. And when on the other hand the result

was not favourable, it was equally natural to pass it over without notice or to find some excuse for it. And such has been the case in a striking manner in the Reports of the various Medical Officers. Some, indeed, have written with much caution—have claimed time to produce or to prove the success of the Acts, and have candidly acknowledged failure or disappointment; but such writing has been quite the exception. Again, the Medical Officers inevitably write, if they write at all, upon a very short experience in nearly all cases, because the troops are moved from year to year, and the ships also remain for only limited periods. The consequence is, that the most confident opinions are continually expressed upon an experience of a few weeks or months only, without considering—probably without knowing—the extreme fluctuations that occur in these diseases from year to year whether under the Acts or not.

The Author of this Statement, on the contrary, has had the whole succession of changes brought under his notice at once, by the examination of volume after volume of the Health Reports, and has had the improvement in unprotected places forced upon his notice by the statistics, just as much as that in protected places, without being able to avoid also seeing the fluctuations in different years.

He has further had the advantage over the Compiler of the Army Reports in having to analyse those for the Navy also, and over both the Army and Navy Compilers in having to examine Parliamentary Papers relating to Prostitutes, with which they have neither of them any official connection. He has, therefore, had the whole of the Army, Navy, and Prostitutes under view at one time, instead of isolated portions only; and he has seen that the victory against disease has not gone with the Acts as a whole, whatever isolated gains may appear to the immediate actors to have fallen to their share in their strenuous contest with this fell enemy.

80p.—In reading the volumes of the Navy Health Reports consecutively, an opponent of the Acts is struck with this feature. That when a favourable condition as to health occurs in a protected place, the C.D. Acts are warmly commended, and everything good is attributed solely to their influence; whilst if a similar or even more favourable condition is met with in an unprotected place, it is either passed over without a word of comment, or is spoken of as something strange and inexplicable. If a large amount of disease is present in an unprotected place, the absence of a C.D. Act is lamented, and glowing prophecies are uttered of the great things it would accomplish if only it was introduced; but if an unreduced or increased amount of disease has to be recorded in a

protected place, numerous reasons for the failure are at hand, but none of them implying doubts of the efficiency of the Acts. These varying judgments are often based upon simple conjecture, but they are not unfrequently supported by figures that are satisfactory to the writers at the time, but are most inconclusive to opponents, *because the praise and blame, and the statistics to support them, are based upon a far too limited experience*, so that the same place often yields most conflicting results in successive years. The fluctuations in the amount of disease in the Army have been fully considered in parag, 65 et subs., and similar variations in the naval stations are apparent throughout the table in parag. 80e. It is only, therefore, by taking a wide range of places, and a period of many years, that anything approaching to truthful average can be arrived at. In the foregoing analysis the whole world has been under comparison, and the longest attainable period *i. e.* eight years since the Acts have been passed, has been reviewed, with the result of shewing (as it appears to the writer) *that the direct influence of the Acts upon the health of the navy, either for good or bad, is almost unappreciable, and is certainly not for good.*

PROSTITUTES.

81. Upon the effect of the Acts on the health of **PROSTITUTES** extraordinary evidence has been given, and even repeated after its nature had been pointed out. It is said that the Acts have produced a most remarkable diminution of disease amongst the prostitutes in Devonport, for that in 1867, in Devonport, 352 cases of disease were found in 378 examinations, or nearly every person examined, whilst in 1870, on 10,393 examinations only 868 cases of disease were found, or less than one in twelve. And this statement has been dwelt upon by advocates of the Acts, as proving the extraordinary improvement in the health of the women, without any notice of the fact that in 1867, in Devonport, *only those women were examined against whom the police had information that they were diseased. Whilst in 1870, every registered prostitute was examined every fortnight, whether well or ill.*

82. If compared with the number of *women* instead of the number of *Examinations* the cases stand thus:—Col. 21 and 30, p. 6, 7, Parl. pap. 149.

Year.	Cases of Disease.	Number of Women.	Percentage of Disease
1867	... 352	... • 304	... 115.8
1870	... 868	... 612	... 141.8
1872	... 706	.. 487	... 144.9

showing that each woman was much more frequently diseased in 1870, (after the last and most stringent act was passed) than in 1867, the year after periodical examinations were first enforced, and still more frequently diseased in 1872, after three years experience of the Act of 1869.

83. Mr. Lewis, late M.P. for Devonport, has stated, as if it was an irresistible proof of the benefits from the Acts, that in 1862-4, 697 females were treated for venereal diseases in the workhouses in the Devonport district, whilst only 115 were so treated in 1868-70; and this statement he has repeated as if incontrovertible, although it is known to himself and every one interested in the matter, that there was no place but the workhouses in the first of these periods, whilst the lock wards of the Royal Albert Hospital, of which he was the chairman, had been prepared specially for the reception of these patients before the second period, and therefore the prostitutes were treated there instead of being taken into the workhouses as formerly.

84. From the Parliamentary Paper, No. 149, p. 5, (7th April, 1873,) it also appears that *the health of the Registered Prostitutes had fallen off since the Acts came into operation*, for the Column (31) shewing The “annual ratio per cent. of cases of disease calculated on the average number of women on the Register,” is as follows:—

1866,	1867,	1868,	1869,	1870,	1871,	1872,	1873,	1874*
121.60,	140.71,	202.74,	194.73,	148.25,	135.44,	146.94.	141.75,	137.31.

Shewing nearly 13 per cent. more disease at the present time than in 1866, when the second Act was passed. This column, however, is subject to the same source of fallacy as is pointed out in parag. 62, in reference to the tables in Parliamentary Paper 208.

85. It is not disputed that the registered prostitutes are more highly paid, and are consequently better fed and better clothed than formerly; but, as it is also undisputed on either side, that every registered woman now consorts with more men than formerly, (89. 962-3. 4258-9,) it was asserted before the Royal Commission that the registered women were more frequently diseased then than formerly. (3534-5. 3571-2.)

86. The Column (14) of the same Paper (No. 149), shewing the Deaths amongst Registered Prostitutes, is to the same effect.

1866,	1867,	1868,	1869,	1870,	1871,	1872.
15,	15,	23,	41,	50,	53,	51.

*Report of Metrop. Police for 1874, by Capt. Harris.— March 12, 1875. This Report has been published since Page 29 of this “Statement” was in print, and the amount of disease in 1874 is less than in 1873, but the deaths amongst prostitutes are higher than ever.

As however the stations in which the Acts have been in force have varied from time to time, and the districts to which they have applied have been extended, it is necessary to ascertain the ratio of deaths, and not simply the numbers. The proportions are not given in the Parliamentary paper, No. 149, but data are supplied in Col. 14 and 30, p. 4, from which the following results have been calculated:—

	Col. 14.	Col. 30.
1865—the year before periodical examinations were in force, there were	4 deaths in	466 women, or 9·8 per 1000.
1867—the year after the New Act ...	15 „	1439 „ 10·4 „
1869—the year in which a still more stringent Act was passed	41 „	2455 „ 16·7 „
1870—the year after ...	50 „	2977 „ 16·79 „
1871—two years after ...	53 „	2567 „ 20·64 „
1872—three years after ...	51 „	2371 „ 21·5 „
1874—five years after ...	50 „	2174 „ 23·0 „ *

More than twice as many as before the periodical examinations were in force, and still increasing year by year.

86a. The Acts cannot be considered favourable, either to the health or the longevity of the “Registered” Prostitutes, when disease has increased above 12 per cent., and the deaths are much more than twice as many as in the year before the Act enjoining periodical examinations was passed.

GENERAL SUMMARY OF FAILURE OF ACTS IN DISEASE.

87. Tried then by comparing the rate of fall in venereal diseases of all kinds, previous and subsequent to the passing of the Acts, (parag. 50, and Diagrams,) and tried in their influence on the health of the army and navy for whose benefit they were passed, and of the women, (parag. 84, 6) on whose improved health their efficacy was to depend, the Contagious Diseases Acts are a conspicuous failure; and the nation has nothing but an increase of expenditure in carrying them out, in return for the sacrifice of some of its most ancient and valued constitutional principles; and for the outrage done to morality and religion by the acceptance of unchastity in men as worthy of the protection of the state.

EXPLANATION OF FAILURE.

88.—“IT STANDS TO REASON THAT IF YOU SHUT UP A NUMBER OF DISEASED WOMEN IN HOSPITAL, YOU MUST LESSEN THE AMOUNT OF DISEASE, EVEN IF SOME ESCAPE YOU, AND MEN ARE NOT DETAINED AT

* Rep. Metrop. Police for 1874, by Capt. Harris.—March 12, 1875.

ALL.”—Such is the objection frequently made by professional friends and others consulted during the preparation of this Statement, when made aware of the results now arrived at ; sometimes made by advocates of the Acts, determined that nothing shall shake their confidence in such legislation, but more frequently by men simply desirous of ascertaining the truth and perplexed at finding a result so different from what appears a natural expectation. There are many reasons why such Acts fail, and about the following there is no dispute between advocates and opponents of the Acts, both equally acknowledging their truth.

88a.—INCREASED INTERCOURSE WITH REGISTERED PROSTITUTES SINCE THE ACTS.—This is not disputed (parag. 85) ; and as a consequence each woman runs the risk of being diseased more frequently than formerly ; and the latest Metropolitan Police Report, 1874, (parag. 84), shews that there is an increase of above 12 per cent. in disease amongst the Registered Prostitutes since the Acts, and as more men consort with them infection is naturally further spread.

88b.—MEDIATE INFECTION.—A diseased man leaves diseased secretions in the vagina after intercourse, which do not necessarily affect the woman herself, but impart disease to the next healthy man who has intercourse shortly afterwards. This source of infection entirely escapes detection during the periodical medical examinations, and the danger is increased in proportion to the number of men who resort to a registered woman, under the fallacious supposition of safety.

88c.—INABILITY TO DETECT DISEASE WHEN PRESENT.—The general evidence of Gonorrhœa can be easily removed by washing and syringing previous to going up for examination, and the true Syphilitic Sore is frequently so small and concealed amongst the folds of the mucuous membrane, as to escape the most careful examination.

88d. The failure of these and similar Acts to effect a reduction of Venereal Diseases, is what might be anticipated from a consideration of human nature as it is, when compared with simple animal nature. It is no new discovery that stolen water is sweet and that liberty is prized : and although disease might possibly be *lessened* amongst *cattle* by applying repressive laws *to one sex only*, it is certain that amongst human beings the females will always try, and in a large proportion of cases successfully, to evade the police and escape from such partial and oppressive legislation as the Contagious Diseases Acts ; and that the men will seek for something forbidden and difficult to attain, rather than be satisfied with what is common to everybody, (see parag. 20 note). Men will therefore receive and spread disease beyond the restricted limits, and diseased women will

not resort early to medical treatment for fear of detection and consequent subjection to the law : and the state of things described by Lecour (parag. 20 note) and lamented by every continental writer upon this subject will be perpetuated. If disease of this nature is to be effectually lessened it must be by both sexes practising self-restraint, and not by legislation forcibly to restrain one sex only, while the other is at liberty to spread disease unchecked, which all the experience of history—whether ancient or modern—shews to be futile.*

In concluding this section on the sanitary aspect of this question, the opponents of the Acts desire to state that while this failure of proof of their medical efficacy takes away every excuse for the existence of the Acts ; their sanitary success, even if proved, would not remove the moral objections urged against them. The more real the security for profligacy provided by the government, the greater is the impulse given to the practice of vice, which is, and ever must be a greater evil than its resulting disease.

INCONSISTENCY BETWEEN THE PROFESSIONS AND THE CONDUCT OF THE ADVOCATES OF THE ACTS.

89. Without desiring to impute dishonesty, or even conscious inconsistency to the authorities or to the advocates of the Acts, their opponents find it impossible to reconcile their actions and those of the government which upholds them with their professions ; *for whilst they profess to uphold these Acts in order to check disease, the soldiers and sailors who are under the absolute control of the government, are released from the examinations formerly made, at the very time that the Acts are passed for examining women, who owe no submission to the government beyond that of ordinary citizens.* As if any one could be considered honest in a profession of desire to check the spread of small pox, who should assert that female children must be vaccinated, and their mothers sent to prison for neglect, whilst male children need not be vaccinated, but might be allowed, even if actually suffering from small pox, to spread it wherever they pleased, without let or hindrance.

90. *They profess to advocate these Acts, because they have reduced the number of prostitutes.* But the evidence of Lord Sandhurst and Dr. Ross before the Royal Commission, showed that *when a regiment goes to India, the medical officers fill up a printed form, ordering so many prostitutes*

* See a very valuable paper on the History of Repressive Legislation and its results, by Dr. Chapman. "Prostitution—Government Experiments in Controlling it." Trubner & Co., London, 1870. Price 6d.

for the supply of the soldiers, and so many more, if the first number seems too small ; just as provender is ordered for the horses, or camp followers for the stable ; and the order is confirmed by the commanding officers as a matter of course. And several of the advocates of the Acts before the Royal Commission, deprecated too limited a supply of prostitutes for the home army, though they did not think this likely to happen, as the demand, with higher pay resulting from a scarcity, would always ensure a supply.

90a. *They advocate the Acts, because they are asserted to have extinguished juvenile prostitutes*, yet they have constantly thrown out Mr. Charley's bill for making the seduction of girls of 12 years of age a crime, on the pretence that as a girl of 12 years old can legally be married, she is old enough at that age to take care of her own virtue.

91. *They advocate the Acts, because they are said to have reduced the number of brothels. But in Hong Kong the British Government licenses the brothels, and derives an income from each brothel of four dollars per month*, and Mr. Knapp, Assistant Surgeon, and Superintendent of Contagious Diseases' Acts in Bombay, states in an official report to the Municipal Commission of Bombay, June 15th, 1871, that "the entire expenses of working the Acts in Hong Kong, have been defrayed by the prostitutes and brothel keepers, leaving a balance of 50,000 dollars in hand."

92. *They advocate the Acts, because they are stated to have an elevating moral tendency*, yet the government throws the greatest obstacles in the way of honourable marriage amongst the soldiers, by restricting the number to a very small one, and punishing a soldier severely who marries without the commanding officer's permission ; whilst it encourages profligacy amongst the unmarried, by relieving them of liability to support their illegitimate children,* and by the costly provisions made for the health of prostitutes for the men, and the quasi sanction which these Acts are unquestionably believed by both the men and the women to give to prostitution.

93. Sir Henry Storks advised the government that until they recognize prostitution as a necessity, they will do no good ; and evidence is adduced in paragraph 90, as to a plentiful supply of prostitutes in order to keep the soldiers in health.

94. If there is not barrack accommodation for the wives and families

* The Mutiny Act has been verbally altered in this respect, but the government itself acknowledged during the debate in the House of Lords, that the change would probably be without effect, and would leave the soldiers as free as formerly.

even of those who have had permission to marry as a reward for good conduct, they must shift for themselves as best they can ; but if there is not accommodation for prostitutes, costly hospitals are built for them.

95. If the wives who are sanctioned are sick, a pitiful allowance indeed is made during the sickness ; but if a prostitute is sick, she has everything that special hospitals can supply, some of them built on purpose for her accommodation, and at a weekly expense of certainly not less than fourteen or fifteen shillings.

96. NATIONAL PROTEST AGAINST THE ACTS.

Up to the close of the session of 1874, including previous sessions, 3,800 petitions against these Acts have been presented to Parliament, bearing above 1,600,000 signatures ; and as many of these are the signatures of chairmen of large meetings, religious bodies, &c. ; they represent the opinion of from two to three millions of persons. Against this outburst of public moral reprobation are to be set 43 petitions in favour of these Acts, with 3,578 signatures, some hundreds of which were those of women under the Acts.

97. These Acts have been petitioned against by several bishops, and notably condemned by the bishops of Hong Kong, Bombay, and Cape Town, who have seen the working of these or similar Acts when unchecked by English public feeling ; by 1,700 clergymen, by nearly 900 congregational ministers, and upwards of 2,000 medical men ; by the Free Church and United Presbyterian Church of Scotland, the Irish Presbyterian Church, the Wesleyan Conference and other Methodists, the Society of Friends, the Baptists, and the Congregationalists.

98. SUGGESTED SUBSTITUTES FOR THESE ACTS.

A continuance and extension of all those moral, intellectual, and sanitary improvements in the army and navy, which have already produced such good fruits.

The encouragement of virtuous, and the discouragement of vicious conduct amongst the soldiers and sailors, instead of almost patting vice upon the back, by publishing to the world, as the opinion of the Royal Commission, that prostitution in man is merely "an irregular indulgence of a natural impulse." (see report, s. 60.)

The establishment, on a sufficient scale, of voluntary lock hospitals, or lock wards in general hospitals—which latter possess a great recommendation over the first in not stamping the patients as viciously diseased, from the simple fact of having been in a lock hospital.

Encouragement to enter such hospitals, or wards, on the first appearance of disease, by removing as far as possible all hindrances to admission.

The following extract from Capt. Harris's Report of the metropolitan police for 1874, is important:—"Women come from unprotected districts and insist upon signing the voluntary submission form, in order that their names may be placed on the register, and that by this means, they may gain admission into hospital," p. 7, s. 10. If diseased women are so anxious to get into hospitals, which are practically prisons, that they *insist* upon being registered as common prostitutes and incurring the penal consequences of registration, in order to obtain admission, it is difficult to believe that they would not avail themselves readily of voluntary hospitals unaccompanied by such penal provisions.

Placing these institutions under the charge of honorary medical officers, instead of under the charge of paid government medical officers. There has never been a lack, and the time is far distant when there will be a lack of eminently qualified medical men, who will willingly undertake honorary posts for the cure or relief of diseases, even though arising from the sufferers' own misconduct, who would scorn to undertake such a duty as examining prostitutes day after day, not for the relief of disease, but simply to ascertain that they are fit for prostitution with safety to men, and then to turn them loose upon the streets for this purpose. If such is to be the duty imposed upon medical men, direct payments will be a necessity; and it is difficult to appreciate the mental characteristics of a man who will decline to examine men, because of its moral degradation, (parag. 40), but can see no degradation of the high motives and spirit that ennoble the medical calling, in examining women for the purposes of prostitution.

Upon this point we cannot express our feelings better than by quoting the following from the *Medical Times and Gazette*, which was written before habit and familiarity had made that seem good which was loathsome to the Editor's professional instinct when first proposed:—"THERE
" IS NOTHING WHICH WOULD TEND MORE TO DEPRIVE MEDICINE OF THE
" RANK OF A RESPECTABLE CALLING THAN THE FACT THAT PRACTITIONERS
" SHOULD BE FOUND WILLING TO LEND THEMSELVES TO THE DIRTY WORK
" OF EXAMINING PROSTITUTES, IN ORDER TO ENABLE THEM TO CARRY ON
" THEIR TRADE, AND EVEN, AS HAS BEEN PROPOSED, INSTRUCTING THEM
" IN THE ART OF INJECTING, SO THAT THEY MAY SIN WITH SAFETY. IF
" THE HEADS OF THE PROFESSION, OR THE COLLEGES, EVER DESIRE AN
" OPPORTUNITY OF PROTECTING THEIR MEMBERS FROM DEGRADATION, HERE
" IS ONE."—*Sept. 22nd 1869.*

It is a secondary, but not an unimportant consideration, that no "vested interests" would be created by such honorary appointments, to be afterwards bought out by the nation, when the principle of the Contagious Diseases' Acts is so condemned as to cause their removal from the Statute Book.

The encouragement of "Homes" for the reception of such women as are reclaimable by such an agency; and the more strict enforcement of the ordinary police regulations, by which many, if not all the benefits attributed to the Acts have been and can be obtained, without the unjust and one-sided legislation of the Acts.

These Acts are credited with having checked if not suppressed juvenile prostitution. Their advocates ought therefore to favour *a law which should make the seduction of a female under sixteen years of age a crime, whether with or without consent; and which should punish seduction as a crime, without requiring the fiction of "loss of service,"—seduction being one of the most fruitful causes of subsequent prostitution.*

The Report of the Royal Commission, which certainly was not composed principally of opponents of the Acts on its first appointment, condemned the periodical examinations, and the employment of police spies. Yet even these suggestions have not been acted upon. The present opponents of the Acts would actively and willingly co-operate with the government, in its desire to raise the fallen, to prevent the fall of others, and to promote to the utmost the health and morals of the community at large, by every moral and equitable or merciful agency that offers a prospect of success, whilst they will continue their strenuous opposition to all such immoral, unjust and merciless legislation as that of the Contagious Diseases' Acts.

EXTRACTS FROM REPORT OF ROYAL COMMISSION.

99. Object of Acts, s. 13.—"The Acts so far sought to control the conduct of prostitutes, *as to render the practice of prostitution if not absolutely innocuous, at least much less dangerous.*"
100. Health—Results—Navy, s. 31.—The returns of Dr. Armstrong, (navy) of cases of Gonorrhœa are remarkable, they would seem to show that since the introduction of the system in 1864, the more serious form of disease has diminished, whilst the other form has increased.
101. Army, s. 32.—Dr. Balfour, (army) was of opinion so far as

Gonorrhœa was concerned the Acts were a failure. The other tables put in by Dr. Armstrong, (navy) exhibit similar results.

102. Royal Marines, s. 35.—From the tables quoted by Mr. Romaine, (royal marines) the cases of syphilis were 71 per 1000 on Lady day 1864, before any special legislation had taken place. At Lady day 1867, *before* periodical examinations had been introduced, the ratio had fallen to 23 per 1000. These results therefore, *if due to legislation at all, were certainly not due to the legislation of 1866, of which periodical examination is the principle.*
103. No Reduction from Acts, s. 37.—*There is no distinct evidence that any diminution of disease among the men of the army and navy which may have taken place, is attributable to a diminution of disease contingent upon the system of periodical examination among the women with whom they have consorted.*
104. Prostitution recognized as a necessity, s. 48.—It is said that prostitution is recognized as a necessity by placing it under regulations. On the other hand, it is contended that it is not recognized as a necessity, but the fact of its existence only is recognized. *It is difficult, however, to escape from the inference that the State in making provision for alleviating its evils has assumed that prostitution is a necessity.*
105. Virtually, a license to be upon the streets as “healthy.”—(S. 48)
“Some (of the women) exhibit the printed order to attend the periodical examination as a certificate of health.” NOTE.—In consequence of this use of their printed orders, papers are now withheld from the women, who say they can do just as well without them, the fact of their being “registered” and “at large” being sufficient proof of their health.
- 105a. Protected towns resorted to as safe, s. 48.—“There is some slight evidence that the protected districts are resorted to by strangers for the purpose of safe indulgence.
106. Condemn Police Spies, s. 56.—We desire to express our opinion, that the police officers employed in the service should perform their duty in uniform.
107. Condemn the Periodical Examinations, s. 66.—We recommend that the periodical examination of the public women be discontinued.

DEGRADING AND HARDENING INFLUENCE OF THE ACTS UPON THE WOMEN.—(*Taken from the Evidence before the Royal Commission.*)

109. The writer of the foregoing “statement” may perhaps be excused for mentioning that his own impression was generally favourable to the Acts, and he had frequently declined to take any part against them, until he was induced to read the Acts themselves and the evidence before the Royal Commission, which resulted in his earnest opposition to them, as herein illustrated. He has not yet met with a single medical man, clergyman, or man of general education and intelligence favourable to the Acts, who has read either the Acts themselves, or especially the evidence before the Royal Commission.

110. The question was pressed upon the witnesses before the Royal Commission, Is the Periodical Instrumental Examination likely to be felt as degrading, or morally repulsive by women who are ready to sell themselves to any comers? and when the witness was a Medical man, accustomed to think of the Examination as an ordinary matter, and as a common plan of treatment, and also in two or three instances when the witness was a minister, the answer was frequently that such women were so degraded already that it was impossible to think the Examination would shock them or degrade them still lower. When the witness was a Woman, a Minister, or “Refuge”-Manager, and in many instances a Medical man, the answer, on the contrary, was that many of the women are not lost to all sense of modesty, that they do feel the Examination and its object as a degradation beyond that of their daily life, and that they are morally sunk after they have been subjected to it, to a depth below that of an unsubjected prostitute.

111. 18,184. Mr. Thomas, Secretary of the London Female Prevention and Reformatory Institute.

“One and all (the women who have passed under these Acts) state that it has a tendency to stamp out all the remains of good feeling.”

112. 8,561. Mr. Littleton, Registrar of Marriages in Devonport.

These Acts have been the means of bringing more youthful prostitutes into the streets. (8401.) “I have had frequent communication with them (women affected by the Acts); I should not exaggerate in the slightest if I said I had seen nearly 200,”

(8402) and taken down their statements," (8571) "I do not believe that every particle of self-respect is stamped out of these women; but while they are subjected to examinations of this kind simply for the purpose of vice, that is a degradation, and the women so express themselves."

113. 18,345. Corporal McGranery, Head of the Artillery Police, Woolwich.

The Acts were a good thing for the soldiers, but they injured the girls morally very much. Some were thrown into prostitution, and it had bad effects on the prostitutes. They became committed to it.

- 114 18,362. Captain Browne, Royal Artillery, Woolwich.

The periodical examination is the public registry of girls as prostitutes, who may not have made up their minds to continue as prostitutes, although their conduct may not perhaps be moral in all respects. They become publicly registered, and known in the town as prostitutes.

115. 18,383. Mrs. Sawyer, Bible-woman, Woolwich.

Obtained leave to speak to the women whilst waiting for examination, (18,326) and when she commenced, she considered she had a good opportunity of speaking to them, but after a few times, she considered they had become hardened, and the tone amongst them indecent and bad.

116. 3241.2. Mr. S. Wolferstan, Surgeon to the Royal Albert Hospital, Devonport.

These Acts raise the legal status of the women in their own eyes, and harden the women subjected to periodical examination. (3,754.) Although the women are common prostitutes, they are not altogether devoid of a sense of delicacy, and if you subject them to a surgical examination once a week, or once a fortnight, it does tend to deprive them of that sense of delicacy.

117. 17,011. Mrs. Kell, wife of a Unitarian minister residing in Southampton.

"I have used their own expression (speaking of a very low class). 'It takes all the modesty out of them.' One young girl has said 'we respected ourselves after a manner before, but now we go out in the street, and do not care how we are seen, or what we do, for we have lost all feeling of that.'" (17,015.) "I think she felt that the indecency at the examination house exceeded all that she had known before." (16,943.) I have not heard lately of any resistance.

I have no doubt there will be less and less shrinking from the examination as they become accustomed to it, that is to say, as womanly modesty becomes more and more destroyed.

118. 17,965. Miss Brown, matron of the Colchester Lock Hospital.

The operation of the Acts hardened the girls very much ; they used to have a delicacy at first and used to shrink almost from going, but it was not so latterly, they came quite freely and without any feeling. (17974.5.) So much levity and laughter on both going to and coming from the examination room. I thought it increased as they got more accustomed to it. (17,846.) I think these Acts stand in the way of the prostitutes leaving their bad life. (17,891) Another reason why I gave up the matronship, was the return to the hospital of girls who were coming back for the fifth or sixth time. It seemed to be so confirmed, I felt I could not go on any longer in it.

119. 18,045. Mr. Krause, formerly for many years in the Army, missionary in the Woolwich district from the London Mission.

I think these Acts have had the effect of aiding young girls to enter on that sort of life, and when once they have been under inspection, I question whether they are ever induced to leave, as they are known to every prostitute in the whole town. (18,046.) And no matter if they have only been a week on the streets, if the girl once goes to inspection, she is known to every prostitute in the town, and is a marked person. (18,055.) I am quite sure that the system of periodical examination has a tendency to confirm women in a life of prostitution. (18,056) I could give an instance of a girl I visited who was ill ; she said she was brought to examination, and she begged, as for her life, not to be put upon the chair that they examine them on, but there was no alternative —she either had to be examined or go to gaol, and she preferred the examination, and now she is one of the worst girls I know of in the district.

120. 18,504. Mr. Henry Richardson, Registrar of Court of Probate, Cork.

His evidence was generally to the effect that the women thought the Acts “profitable” to them. (18,495 to 18,552.) That they promoted prostitution amongst men under a supposition of safety. (18,597 to 18,613.) “There is a society of young men in Cork, which debated the matter and came to a resolution in favour of the Acts on the express grounds, that it made immorality more safe for them. The whole tone of morals in Cork has been lowered by the Acts,

and practically; as far as women are concerned, I think there is a great difference. They have a hardening effect upon women who have not been long at the business. The reply that he has received has been, "Oh! sir, they are shocking, we are not quite so bad yet as that we should not object to these examinations." He mentioned, (18,567) (what is entirely confirmed by the writer's own experience,) that in conversing with intelligent men, desirous of benefitting the poor and degraded as well as society at large, he found many who had a general impression in favour of the Acts, whilst they were ignorant of them, and had not really looked into them, but as soon as they were made acquainted with them, nearly all saw what they believed to be the immoral tendency of the Acts, and it was not hard to convert them.

121. 19,743. J. A. Phillips, Constable in the Metropolitan Police, who was employed in the execution of the Acts.

It was very clear that there was with many at first going up to examination a considerable amount of shame and sensitiveness, and afterwards a marked spirit of boldness and hardening influence. (19,747.) Their reply was, that they were often obliged to get half drunk before they could submit to the ordeal they had to pass through by the examination. (This necessity for being drunk or half-drunk is confirmed by many of the witnesses.) (19,774.) I left the employment of Constable to carry out the Acts from my own observation of the immoral effects that were produced consequent upon the Acts.—(*This involved a loss of 5s. per week, the extra pay of these Special Constables.*)

122. 20,293. W. R. D. Williams, Member of Committee of the Rescue Society.

Q. "Are these Acts calculated, in your opinion, to reclaim prostitutes?"

"So far from that, my conviction, based upon experience, is that they first produce prostitutes, and then that they obstruct reclamation." They first deprave their feelings and render them less amenable to remonstrance and advice, and next give them a certain status or privilege, and an actual license in their sinful traffic.

His further evidence, though most important upon the degrading effect of these Acts upon the women, and printed in extenso in the Minutes of the Royal Commission, is such that it cannot be transcribed even in an official paper like the present. It is sufficient to say, that it is most important and startling, and deserves perusal in the Original Minutes,

(20,298 and subs.) In answer (20,358) he says, I should like to have given the actual instances of girls who were just on the brink of evil, being pushed over and precipitated into vice by this system, in consequence of the police having them up for examination. I have many instances of that character if you could have given me the necessary time. And in (20,359) he states that he has authority from Mrs. Macdonald, the Matron of the Exeter Penitentiary; Mrs. Clayton, the Matron of a Home at Woolwich; and Mrs. Walker, the Matron of Pentonville Institution, who say that the women are quite unlike what they were before the Acts came into operation, and the chance of their reformation is very much on the decrease. It is utterly hopeless to go among the women now, they will not enter the Home. The Committee will not receive the "government women" into Pentonville "as nothing is to be done with them."

123. 7,412. Rev. J. Hawker, Chaplain at the Royal Albert Hospital, Devonport.

His evidence is to the effect that the Acts "encourage prostitution;" "do not deter girls from becoming prostitutes," but (7465) "by their indirect effects offer inducements for girls to become prostitutes;" "do not give greater opportunities of reclaiming women than voluntary agencies." That the statements about the number of women reclaimed or returned to their friends by the agency of the Acts or Hospitals are "very much exaggerated," and the number really amounts to a (7477) "very small proportion." (7519 to 7521) The moral advantage of the chaplain's teaching is not worth much, from its compulsory character; they are bound to listen to it, but do not wish for it, and do not derive advantage from it, though they behave quietly.

124. 7700.1. Rev. James Metcalfe, formerly Chaplain of the Royal Albert Hospital, Devonport.

I think the examinations tend to harden her character, and that she is more likely to persevere in that course of life than a woman not subject to periodical examination.

125. 7821 to 7863. Miss Lucy Bull, Matron of the Royal Albert Hospital, Devonport.

"Have you formed any opinion of the effect of these Acts on these women; do you think they lead to immorality or otherwise?"

"I think the girls are not nearly so well behaved as they were formerly;" not nearly so obedient to the discipline of the hospital. I think the periodical examination has a great tendency to harden

and keep them in that life. They are not reclaimed so readily, and the proportion of reclamation is very much less now than under the voluntary system; (7844-5) and the reclamations are not real, for the 'reclaimed' women return again and again to the hospital. (7941) The girls are more about the streets in the daytime than they were.

Note.—The following pages contain information too detailed for insertion in the text of the "Statement."

Failure of the Contagious Diseases' Acts as Sanitary Measures.

Evidence from Malta, Gibraltar, and the Mediterranean generally; from India and the Cape of Good Hope.

As Malta has been prominently put forward as a proof of what Contagious Diseases' Acts can do, and Sir Henry Storks boasted that he had "stamped out" Venereal Diseases in that Island during his Governorship, the question is not unnaturally asked of the opponents of the Acts, "Well, but how about Malta?"

The following paragraphs contain all the information to be obtained about Malta, from the Army and Navy Health Reports, and the information relating to Gibraltar and the Piræus is added because of its importance in estimating the success or failure of these Acts in these protected stations. If it were possible to conceive circumstances that should be most favourable to the success of such laws as the Contagious Diseases' Acts, they already exist in Malta. If in this Island they are a failure, what place can be conceived more favourably circumstanced for success?

Malta.—Army.—

1859.—P. 40.—Increase of 50 per 1000 over former ratio—probably attributable to police surveillance being discontinued for some time,—but in consequence of representations made to the governor, it has been resumed, and we may hope to find the amount of Venereal reduced in consequence.

1860.—P. 49.—Nearly the same proportion as last year, and greatly in excess of the former average, which is doubtless attributable to the discontinuance of police surveillance of prostitutes. (Though this was stated to have been resumed last year.)

1861.—P. 43.—Reduction in Venereal very satisfactory, and this is stated to have arisen from greater police strictness. A new and more stringent law had been passed on the 10th May, 1861.

- 1862.—P. 50.—Very great reduction. This is attributed to the adoption and efficient execution of a system of police surveillance of the prostitutes.
- 1862.—“Extraordinary improvements reported in the Navy.”
- 1863.—Army.—P. 49.—A slight reduction upon the low ratio of 1862.—The Medical Officers attribute this to the operation of police surveillance of prostitutes.
- Navy.—P. 54.—Great reduction generally, but for a time a new regiment brought a considerable increase.
- 1864.—P. 42.—Shows an increase upon the ratio of 1863. This is attributed to the arrival in Malta of the women who followed the troops from the Ionian Islands. (A significant comment upon the failure of repressive Acts like these, when they encounter the will and ingenuity of men and women to defeat them.”
- 1864.—Navy.—P. 67.—There can be no doubt, INCOMPLETE AS IT MAY BE, that the surveillance at Malta exercises a most salutary influence. (If it is so incomplete in Malta, five years after its “resumption” in 1859, and three years after the “new and more stringent law” of 1861 was passed, where can completeness be hoped for?)
- 1865.—Army.—P. 42.—Enthetic Disease as low as in 1863. (44.1 per 1000.)
- Navy.—P. 73.—Notwithstanding the absence of any case of Syphilis that could be traced to Malta, the place is not so free from Gonorrhea.
- P. 73.—We experienced a very satisfactory exemption from Venereal Affections at Malta, and though it must be admitted that in the female the DISEASE-GIVING SORE IS OCCASIONALLY TOO SMALL TO BE DETECTED ON EXAMINATION, yet incalculable benefit arises from the better attention to cleanliness, to be expected when such a system is in operation.
- 1866.—Army.—P. 47.—An increase of 15 per 1000 on the ratio in 1865, entirely in Syphilis.
- Navy.—P. 87.—Notwithstanding all the zeal and efforts of the police, Venereal Disease does exist and circulate about to some extent, the principal Media being, it is supposed, females over whom jurisdiction is a MATTER OF CONSIDERABLE DELICACY. (This relates to mistresses of officers, who in the absence of their keepers resort to lower grades in the Army. It is

“matter of considerable delicacy” to interfere with a fashionable woman, even when diseased; but such a consideration of course does not apply to the general run of prostitutes, who are poor women.)

1867.—Army.—P. 48.—Ratio of Euthetic Diseases, 54·5 per 1,000. Not a word of comment.

Navy.—P. 83.—The value of the stringent surveillance at Malta, is well evidenced by the returns during the first quarter of the year, when only one case was added. In the second quarter five cases of indurated sores were added. (Nothing is said about the third and fourth quarters, and the returns do not supply any information as to anything but indurated sores.

1868.—Army.—P. 57.—Enthetic Diseases, though under the average of the last nine years, were more than in 1867, but there is a decrease in other diseases and accidents, p. 58.

Navy.—P. 69.—More Disease was contracted by the Caledonia men in Malta, than in Constantinople, Beyrout or Trieste; and as much as was contracted in Naples. And yet, in the next page of this report, (page 70,) we are informed that Malta continues to maintain its character for freedom from Venereal Disease. The ground for this commendation is the following—not a single case occurred from *two days* leave of absence, given early in December. Yet in the Christmas quarter, as a whole, as much disease was contracted in Malta as in Gibraltar, which is thus described in the next year’s reports (1869, p. 53.) “Gibraltar is a perfect hot-bed for all sorts of Venereal Diseases.”

1869.—Army.—P. 60.—Line.—Disease less than 1868. Syphilis 9·7 per 1,000. Gonorrhœa 23 per 1,000.

Navy.—P. 53. Whilst Malta is almost free from Venereal Disease, Gibraltar is a perfect hot-bed for all sorts of it, but Cadiz, which bears a bad name for it, did not produce a single case, although many men went daily on shore.

(If the men were so long free from disease in Cadiz, which has such a bad name, how does two days’ freedom prove the absence of Venereal Diseases in Malta?)

1870.—Army.—P. 56.—Syphilis only 8 per 1,000. Slight increase in Gonorrhœa.

Navy.—P. 54.—9 cases at Piræus, 5 at Malta, and 4 at Naples, contracted by the Caledonia men,”—(*i.e.*, again more in Malta than in Naples.)

1871.—Army.—P. 55.—Syphilis, 13·5 per 1000.

P. 57.—“Malta Fencible Artillery. Increase of Syphilis—42·6 per 1,000, and considerable increase of Gonorrhœa, (but no comment is made upon them by the Navy Report.)

Navy.—P. 62.—“One-seventh of all Venereal sores in the Caledonia was contracted in Malta : the rest chiefly in Naples, Lisbon, and Gibraltar.

1872.—Navy.—P. 55.—The latest evidence of all is brief and emphatic. The Staff-Surgeon of the “Lord Warden,” one of the ships specified in the Navy Report as having had the greatest amount of disease on the Mediterranean station, says after all these years experience, “The working of the Contagious Diseases’ Acts at Malta does not prevent the contracting of Disease by our seamen and marines.”

1872.—Army.—P. 66.—“Syphilis was greatly more prevalent than in 1871, and the ratio of admissions for it exceeded threefold the average for the three years from 1869 to 1871.”

If in 1859 police negligence is pleaded as an excuse for the inefficiency of the Acts even in Malta, and the resumption of its activity, after remonstrance with the Governor, is still unaccompanied by benefit in 1860 ; if in 1864, such an influx of diseased women took place, along with the troops from the Ionian Islands, as to require special excuse for the increase of disease, said to have been occasioned by them, and if the police surveillance is described as useful, “incomplete as it may be ;” if in 1865, the Ratio of Enthetic Diseases was 44·1 per 1,000, and was higher still by 15 per 1,000 in the following year ; if the DELICACY OF INTERFERING with known sources of disease is accepted as an excuse in 1866 ; and if in 1868, more disease is contracted in Malta, than in Constantinople, Beyrout, Trieste, or Naples ; if in 1872, the Staff-Surgeon of the most diseased ship in the Mediterranean, has to acknowledge that the Acts do not prevent the contracting of disease by our seamen and marines in Malta, and the Army Report shows that it is more than threefold the amount of the previous three years, the opponents of the Acts may well call upon their advocates to put forward some better proof of their efficiency, than is afforded by the experience of this much praised, singularly favoured, and highly protected Island.

Gibraltar has long been under Contagious Diseases’ Acts, with the following results :—Army.—

1859.—P. 35.—Army.—Enthetic Disease : “Enormous Increase.”

“It is difficult to assign any reason, except that the FLEET

(an army surgeon is writing) was more frequently here than usual, and it is believed that the disease was greatly kept up by the SAILORS. So far as can be ascertained the police regulations respecting prostitutes, have neither been relaxed nor inefficiently put in force."

- 1860.—P. 45.—"Much lower ratio of admission, probably attributable to increased police vigilance." Yet it is said there was no police laxity or inefficiency before.
- 1861.—P. 38.—Increase compared with the preceding years. Principal medical officer cannot assign any reason for it. He states that the police regulations remain unchanged.
- 1862.—P. 46.—Considerable reduction—entirely in sores: Gonorrhœa rather increased.
- 1863.—P. 46.—Reduction to the extent of 56 per 1,000. Principal medical officer unable to account for it, as no alteration has taken place in the police regulations.
- 1864.—P. 39.—Has exceeded 1863 by 31 per 1,000, so that the reduction noticed in our last Report has not been maintained.
- 1865.—P. 38.—Reduction only 10 per 1,000 since last year. Considerable decrease in Syphilis, but nearly counterbalanced by increase in Gonorrhœa.
- 1866.—P. 43.—Rather more prevalent than in 1865, chiefly in Syphilis.
- 1867.—P. 45.—Greatly in excess of 1866, and entirely in Syphilis, Gonorrhœa being nearly unchanged. No special explanation is given of the increase.
- 1868.—P. 51.—Increase of 10 per 1,000 upon last year, in Gonorrhœa.
- 1869.—P. 56.—"Syphilis furnished the largest proportion of cases, one-seventh of the whole admissions into the Hospital—13 per 1,000 above the average of last 10 years, *i. e.*, one-fifth more than the average. From Gonorrhœa and its consequences, there were 393 admissions, *i. e.*, 8 per 1,000 above the average of the whole of the unprotected garrison towns in Great Britain. Navy—P. 53.—"It is unfortunate that some measures are not adopted at Gibraltar, to prevent such an amount of preventible Disease."
- 1870.—P. 52.—"A marked reduction in the amount of Syphilis.—one-third less than in 1869," but still 59.1 per 1,000. There is no allusion to any change of police vigilance to account for it.

1871.—P. 51.—A very satisfactory decrease. Admissions less than half those in the preceding year. Yet the Navy Report complains of the large amount introduced from unprotected surroundings.

1872.—P. 58.—“ Syphilis was greatly more prevalent, the ratio of admissions from it being more than double that for 1871, though scarcely equal to the average for 1869-70.”

Piræus and Greece. —

1864.—Navy.—P. 68.—The Piræus, above all places in the Mediterranean, is the worst for these diseases.

1865.—Navy.—P. 73.—The Laws in the Piræus were quite sufficient for the purpose, but they had been allowed to fall into disuse.

1866.—P. 84.—The great majority were contracted at the Piræus.

1867.—P. 80.—During the first month no cases were contracted at the Piræus. (2 days without contracting disease is given as a proof of the freedom from Venereal Diseases in Malta, in 1868, at p. 70. What a triumph for the Contagious Diseases' Acts this immunity in the Piræus would have been, if only such an Act had been passed in 1866.) In December 3,000 foreigners of all kinds assembled to welcome the King and Queen of Greece, and disease began to appear. (It appears, therefore, that it was the men, rather than the women, that required examination.) “The government medical officer stated that the disease was contracted from a secret set, whom the police could not discover.” (Clandestine prostitution is the usual and natural result of such Acts everywhere.)

1868.—P. 68.—With the exception of about half-a-dozen, all the cases were contracted at the Piræus and Trieste.

1869.—P. 54.—At Malta and the Piræus, matters are now different. In these the police exercise their power and medical inspections of women are held. (Yet the Lord Warden's cases were mostly contracted at the Piræus, and at Naples, Messina, and Lisbon.)

1870.—P. 54.—Half the cases contracted at the Piræus, but the medical officer writes, p. 56., He feels bound to admit that the government was always well disposed to the Acts, and that Greece is not behind other nations in her efforts to check the disease.

1871 and 1872. The Piræus is never alluded to,

INDIA.

A Contagious Diseases' Act was brought into operation in India in 1868.

The short summary condemnation of the Contagious Diseases' Acts, by Mr. de Renzy, given in this "Statement" at page 39, is confirmed by the following extracts from the Army Reports, containing all the information to be obtained from that official source.

BENGAL.—1868.—P. 154.—The two following contradictory paragraphs are published at pages 146 and 154.

Page 146.—Enthetic Diseases are MUCH MORE PREVALENT than in 1867. So far, therefore, as the prevalence of these diseases may be taken as an index, the establishment of lock hospitals does not seem to have produced satisfactory results as yet.

Page 154.—The CONTINUED AND PROGRESSIVE DECREASE in Venereal Diseases since the introduction of lock hospitals, and of the sanitary measures for their repression, is on the whole satisfactory.

1869.—(Supplement contained in Army Report for 1870, p. 206.) Syphilis "was 13 per 1,000 higher than in 1868."

1870.—P. 144.—Syphilis also shews an increase upon the previous year.

1871.—P. 118.—"Syphilis differed very little from the amount in the previous years." (It had fallen in fact one and a half per 1,000.)

Madras.—There is scarcely a comment upon the effect of the Acts in the Madras Reports, which give little but the figures in the subjoined table without remark.

Bombay.—1868.—P. 181.—During this year an Act was passed for the supervision of prostitutes, and establishment of lock hospitals, but it has not been long enough in operation to have produced any material effect as yet.

1869.—P. 180.—No change in amount of disease.

P. 191.—Venereal Disease has been gradually decreasing for several years past, and still continues to do so, except in four stations, where there was an increase from women who could not be brought under the Acts. (The old and invincible enemy of repressive laws—Clandestine prostitution.)

1870.—P. 185.—Higher rates than in 1869 in all the divisions, except Poonah, Mhow, and troops on the march.

P. 193.—“ There was an increase of Venereal Disease in the aggregate in 1870, but solely in Gonorrhœa, It is not satisfactory to find an increase of Primary Syphilis in Deesa, and two other stations ; and in Deesa to a serious extent. In these stations there were between four and five times as many cases, and in Ahmedabad nearly four times as many as in 1869.”

The following tables shew the amount of disease in these three presidencies, before and since the Act of 1868. In this year the method of keeping the Army Health Report was changed, which accounts for the change in the second half of the table.

BEFORE CONTAGIOUS DISEASES ACTS WERE IN FORCE.

Bengal.—1860-6.—Average ratio of all kinds of	
Venereal Diseases	281·8
1867 ratio	163·8
<hr/>	
Reduced.....	118·0 per 1,000.
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Madras.—1860-6.—Average ratio		256·1
1867 ratio.....		222·5
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Reduced.....		33·6 per 1,000.
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Bombay.—1860-6.—Average ratio		262·7
1867 ratio		209·0
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Reduced.....		53·7 per 1,000.
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Total reduction in 7 years.—Before Acts, 205 per 1,000 = 29 per 1000 per annum.

AFTER CONTAGIOUS DISEASES' ACTS WERE IN FORCE.

	BENGAL.		MADRAS.		BOMBAY.	
Venereal Diseases of all kinds...1868...188·8	.....	258·5	.....	197·6		
Primary Venereal Sores.....1869... 93·0	.....	114·2	.....	99·9		
	1870...100·7	100·1	95·8	
	1871... 99·2	93·7	85·7	
<hr/>			<hr/>			
Increase...	6·2	decrease	20·5	decrease	14·2	
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Total reduction in 3 years. After Acts, 28·5 per 1,000 = 9·5 per 1,000 per annum, or barely a third of the fall before the Acts were introduced. The local government of Bombay was so disgusted with the result and the character of the Acts that it stopped the supplies, and the Acts then came to an end.

The FLUCTUATIONS in Venereal diseases in India are remarkable, and forcibly illustrate the error arising from expressing a favourable opinion upon a brief experience of the Acts.

BOMBAY PRESIDENCY.

Station.	1868	1869	1870	1871
Colaba	32·3	160·0	114·4	76·1
Sattara	60·0	15·4	2·1	27·3
Asseeghur.....	52·2	47·6	132·3	88·7
Belgaum	290·8	169·1	99·0	134·6
Kirkee	131·4	207·0	119·8	76·7
Indore	102·6	102·6	139·5	186·4
Neemach	106·5	135·2	62·2	196·4
Nusseerabad	97·6	265·4	131·6	136·3
Deesa.....	95·4	67·8	223·2	107·3
Mount Abeo.....	31·9	122·0	103·4	132·7

Cape of Good Hope.—As the Navy Report for 1872* contains the following lamentations and forebodings upon the Repeal of the Contagious Diseases Acts in that Colony, it is desirable to examine the grounds upon which they are based—1872, p. 177. “The abolition of all restrictive measures at the Cape of Good Hope, has been attended with the anticipated results.” The Medical Officer of the “Seringapatam” writes—“The ill effects of the repeal of the Contagious Diseases Act, which took place three months ago, are becoming alarmingly apparent just at present, and syphilis and gonorrhœa which had almost ceased to exist in Simon’s Town, now rage. We have had 8 cases of gonorrhœa (no syphilis though) within the last few weeks,...whereas in the whole of 1871, whilst the Act was in full force,...there were but 13 cases of gonorrhœa and 1 of

* The Navy Report for 1873 contains a still more remarkable illustration of exaggerated statements, founded on even weaker bases. These have been fully examined in the first number of *The Medical Enquirer*, p. 2, March 15th, 1875.

syphilis," with a much larger company of men. "I greatly fear, this is only the first instalment, of what we may expect from this unhappy legislation. I look upon it as the most deplorable calamity to the public generally, and to the services in particular, that has occurred to whole community for many a long day;" and the surgeon of the Rattlesnake says, "I may mention that the Contagious Diseases Act having been abrogated,...leaving venereal complaints to run riot and work mischief, which they are sure to do." SYPHILIS is now raging forsooth! because there are 8 cases of GONORRHOEA in three months, a disease that the advocates of the Acts now tell us is not worth considering, and is never likely to be lessened by the Acts.

In 1870.—P. 193.—The same medical officer in charge of the Seringapatam, says, 9 cases of Gonorrhœa and 2 of Syphilis appear in the table, which is wonderfully little considering our numbers; and speaks volumes for the way in which the C. D. Act is carried out (8 cases of Gonorrhœa, without the Syphilis is called a "disease now raging" in 1872.) However, the general feeling is so strong against the Act, that I fear it will be repealed. Venereal Diseases in their most virulent forms, will rage as they did three years since, and the Naval and Military hospitals will be crowded.

On turning to the Navy Health Report for 1867, the year thus specified, we find in p. 272 that the "number of days sickness in hospital" was, for

Syphilis. Primary.....	1761
Gonorrhœa	121
Orchitis.....	114

1996 Days sickness

for the whole of the Cape of Good Hope and East India station; which amounts to less than 6 men per day in hospital, taking the whole year through: and as we are informed at page 266 that Venereal Diseases appear to abound at Bombay, Seychelles Islands, Tanatave in Madagascar, and at Simon's Town, and Cape Town, there are five ports individually named to furnish these less than 6 inmates of the hospital; and yet we are told that Venereal Diseases in their most virulent form will rage as they did at this time, and the Naval and Military hospitals will be crowded.

If it should be said that there were 832 days sickness from Secondary Syphilis, and 307 from Strictures, it will add 3 men daily, and the Naval

hospitals will be crowded with an average of 8 men and a half daily. But since Secondary Syphilis and Strictures are the result of disease contracted some time previously and probably elsewhere, the repeal of the Act would have little effect upon these diseases, which Dr. Balfour himself told the Royal Commission ought not to be taken into account, in estimating the results of Contagious Diseases Acts. (16073.) (Parag. 51.)

The following is the evidence relating to the Cape of Good Hope station, from the Army Medical Report.

Cape of Good Hope.—Army.—

1868.—P. 101.—Enthetic Diseases, considerably less prevalent than in 1867. (No Act at this time in existence.)

1869.—P. 110.—Much above the average of last ten years, and slightly IN EXCESS of 1868.

P. 111.—A Contagious Diseases' Act has been in operation in Cape Town, Graham's Town, and King Willam's Town, the three principal stations. But the results have NOT BEEN SO SATISFACTORY as might have been desired. It is to be remembered however, that prejudices had to be overcome, and a system arranged at first. And yet the same Deputy Inspector General Grant writes in the following page—"On account of the Contagious Diseases Act having come into force, there has been a DIMINUTION in the number of Venereal cases."

1870.—P. 99.—The same Deputy Inspector Grant writes—The result of the Contagious Diseases' Acts and Lock Hospitals, as far as the Military are concerned, has not been satisfactory, no apparent impression having been made upon the disease, and the question of its continuance will probably be soon discussed in (the Colonial) Parliament.

1871.—P. 89.—Syphilis was considerably less prevalent than in 1870, (*i. e.*, 13 per 1,000 less.)

Hong Kong.—A local Contagious Diseases Act has been in operation in Hong Kong since 1857 (Army Rep. 1867, p. 120), and this has from time to time been made more stringent, until now it includes actual licensing of brothels, and the most perfect regulations that can be devised for the checking venereal diseases by such means as legislation can command. It is stated in the Navy Report for 1873, p. 282, "Owing to the excellent working of the Contagious Diseases Acts, venereal diseases in this colony are reduced to a minimum."

It is important to compare this with the Army results. In the Army Reports for 1869, '70, '71, and '72 the ratios of "syphilis" are as follows:—71, 57, 91, and 69 per 1,000—average 72 per 1,000—and as this term includes secondary as well as primary syphilis, the ratios when reduced to the Home proportion of "primary sores," are about 54 per 1,000, corresponding nearly with those in the *unprotected* Home station of Warley, which had 51, 55, 57, and 66—average 59 per 1,000 in the same four years. *This ratio is higher* by one-third than in Pembroke Dock, and by one-half than in Athlone, and is barely less than the ratio in Belfast for the same four years, and *is higher than the average of the 5 unprotected Home stations for the four years, viz.:*—Warley, Pembroke Dock, Edinburgh, Athlone, and Belfast put together. *A remarkable feature, however, in the Army Returns for China is the very large proportion of secondary diseases compared with primary;* for in the four years above mentioned (which are all that the altered mode of keeping the Army Returns enables us to compare) there were 95 cases of secondary against 76 cases of primary disease, showing that more than every other case is affected with constitutional disease. The ratios per 1,000 of secondary in these 4 years were 38, 60, 58, and 29, or an average of 46 per 1,000, whilst the average in the Home Army since 1866 has only been 25·4 per 1,000. *It appears, therefore, that the sequel of this legislation in Hong Kong for 15 years is an average ratio of primary disease scarcely below that of five of the unprotected stations at Home, and an average of constitutional syphilis per 1,000 higher by above one-half than the average throughout the whole Army at Home.*

Unprotected Places.—Some of the allusions to them in the Navy Reports.

Sydney.—1867.—P. 335.—When it is considered that the whole ship's company were exposed to the contagious influences of these diseases for twelve months, the number of cases is very small—this may be attributed to the superior class of prostitutes in Sydney, (why should they be superior there?) and to the much greater attention paid to bathing and general cleanliness. There never has been any particular supervision of prostitutes in Sydney.

336.—Only a single case of Venereal Disease occurred in six months in the "Charybdis," though the men would appear to

have had ample opportunities of contracting disease at every port the vessel visited.

"I believe that no special police regulations, with reference to this matter, exist in any of the ports we have visited."

337.—Speaking from an experience of over three years, the surgeon says, "Our men have been specially free both from syphilis and gonorrhœa during their stay on the Australian station." And yet he is so enamoured of the Contagious Diseases' Acts, that he goes on to say, It is to be hoped that the Contagious Diseases' Act which is now doing so much, at least to lessen Venereal Disease at home, will soon be extended to the colonies.

1871.—P. 308.—The immunity from disease at Sydney, where we spent nearly a year and the men had so much leave, and prostitution is rife, speaks well for the cleanly condition of the women. (But there are no Acts.)

S. E. America.—1870.—P. 138.—A single case of Gonorrhœa was the only Venereal Disease in the whole twelve months. The surgeon says, "I am quite unable to explain the remarkable absence of primary venereal affections among the crew, as there is no lack of the disease among the community on shore." (But there are no Contagious Diseases Acts.)

Bermuda.—1870.—P. 102.—General leave was granted, but no cases of Syphilis resulted, which is rather remarkable in a district like Bermuda, where there must be great opportunities for contracting it. (No Contagious Diseases' Acts.)

1872.—P. 94.—The surgeon of the "Plover," writes—Two cases at Bermuda. Kingston bears a favourable comparison with Bermuda, having only four cases, and the ship was there much longer than in Bermuda. Kingston is protected and Bermuda is not, which accounts for the difference in favour of Kingston.

DOES GONORRHŒA CALL FOR CONTAGIOUS DISEASES' ACTS?

Before the Contagious Act of 1864 was passed, the complaints in the Army and Navy Reports about the amount of sickness and loss to the service from Gonorrhœa, did not differ in tone or urgency from those made about Venereal Sores; and the two diseases were so completely identified in the minds of the medical compilers of the Health Returns for the Army and Navy, as to be classed together as "Enthetic Diseases,"

this heading including both forms of disease. Since the hopeless failure of the Acts in Gonorrhœa has been so conclusively proved that its advocates have been obliged to give this disease up, as having increased rather than decreased under the operation of the Acts, it has become the fashion in the Army and Navy Reports, and in discussions upon the subject, to throw Gonorrhœa overboard, and say that it is of no consequence ; that it was never likely to be checked by such Acts ; that it produces no constitutional or hereditary consequences, and that nobody would think of legislating for it.

Mr. Lewis, late M. P. for Devonport, is more consistent, and in his speech in the House of Commons in May, 1873, laid stress upon the loss to the service from Gonorrhœa ; but he stands almost alone amongst the advocates of the Acts, in attaching importance to this disease now. It is, however, a question of medical interest, to learn what amount of permanent injury it does inflict, compared with Primary and Secondary Syphilis, which is now said to be the only disease worth caring about. The following table contains the returns of invaliding in the Navy, for the last 11 years.

TABLE SHEWING THE NUMBER OF CASES PER ANNUM INVALIDED IN THE NAVY, FOR PRIMARY AND SECONDARY SYPHILIS, AND FOR GONORRHŒA, ORCHITIS, AND STRICTURES FOR THE LAST ELEVEN YEARS.

Syphilis—Primary and Secondary.		Gonorrhœa et Seque.	
1862	79	39	
1863	102	39	
1864	101	34	
1865	130	35	
1866	93	39	
1867	70	24	
1868	97	26	
1869	87	29	
1870	101	30	
1871	62	25	
1872	79	26	
11/1001		11/346	
Average. 91		31.5	

Shewing that the “mild and unimportant” disease, causes above one-third as much permanent disability as the other form, for which the Acts are still praised ; and shewing also precisely the same amount of invaliding for Syphilis in 1872, six years after the Act, as in 1862, five before it was passed.

STATISTICS FURNISHED BY THE WAR OFFICE FOR THE PURPOSE OF THE ENQUIRY.

TABLE shewing the average strength of the Troops at each of the Principal Stations in the United Kingdom, with the Admissions into Hospital for Primary Venereal Sores and Gonorrhœa respectively in each year, from 1860 to 1863 inclusive :—

STATIONS.	1860.			1861.			1862.			1863.		
	Str'gth.	Ven. Sores.	Gon-orrhœa.	Str'gth.	Ven. Sores.	Gon-orrhœa.	Str'gth.	Ven. Sores.	Gon-orrhœa.	Str'gth.	Ven. Sores.	Gon-orrhœa.
Devonport and Plymouth ..	3825 .. ..	.. 609 ..	.. .. 684	3537 .. ..	.. 703 ..	.. .. 623	3426 .. ..	.. 500 ..	.. .. 497	2782 .. ..	.. 344 ..	.. .. 354
Portsmouth ..	5710 .. ..	.. 1073 ..	.. .. 1057	5107 .. ..	.. 851 ..	.. .. 1041	4691 .. ..	.. 608 ..	.. .. 839	4630 .. ..	.. 497 ..	.. .. 669
Chatham and Sheerness ..	5647 .. ..	.. 601 ..	.. .. 919	4609 .. ..	.. 470 ..	.. .. 622	3634 .. ..	.. 327 ..	.. .. 511	3899 .. ..	.. 366 ..	.. .. 590
Woolwich ..	6877 .. ..	.. 1280 ..	.. .. 1065	5967 .. ..	.. 823 ..	.. .. 894	5887 .. ..	.. 781 ..	.. .. 878	5234 .. ..	.. 500 ..	.. .. 641
Aldershot ..	15,164 .. ..	.. 1939 ..	.. .. 1681	12,898 .. ..	.. 1894 ..	.. .. 1362	12,078 .. ..	.. 1400 ..	.. .. 1548	11,746 .. ..	.. 1297 ..	.. .. 1116
Windsor ..	* .. ..	.. .. ..	.. .. ..	* .. ..	.. .. ..	.. .. ..	* .. ..	.. .. ..	.. .. ..	* .. ..	.. .. ..	.. .. ..
Shorncliffe ..	3631 .. ..	.. 476 ..	.. .. 386	3758 .. ..	.. 459 ..	.. .. 434	3589 .. ..	.. 234 ..	.. .. 389	2905 .. ..	.. 236 ..	.. .. 328
Colchester ..	2609 .. ..	.. 440 ..	.. .. 451	2135 .. ..	.. 286 ..	.. .. 350	1479 .. ..	.. 233 ..	.. .. 247	1350 .. ..	.. 241 ..	.. .. 289
Winchester ..	1449 .. ..	.. 176 ..	.. .. 293	1186 .. ..	.. 118 ..	.. .. 198	674 .. ..	.. 107 ..	.. .. 133	621 .. ..	.. 63 ..	.. .. 88
Dover ..	2405 .. ..	.. 365 ..	.. .. 306	2339 .. ..	.. 352 ..	.. .. 432	2054 .. ..	.. 212 ..	.. .. 209	2188 .. ..	.. 215 ..	.. .. 325
Canterbury ..	1880 .. ..	.. 155 ..	.. .. 237	1593 .. ..	.. 227 ..	.. .. 254	1124 .. ..	.. 119 ..	.. .. 247	1079 .. ..	.. 147 ..	.. .. 209
Maidstone ..	492 .. ..	.. 52 ..	.. .. 59	412 .. ..	.. 14 ..	.. .. 39	271 .. ..	.. 6 ..	.. .. 17	299 .. ..	.. 24 ..	.. .. 24
Cork ..	1848 .. ..	.. 222 ..	.. .. 205	1835 .. ..	.. 217 ..	.. .. 248	1408 .. ..	.. 153 ..	.. .. 131	1126 .. ..	.. 108 ..	.. .. 92
Curragh ..	5942 .. ..	.. 1017 ..	.. .. 623	5962 .. ..	.. 853 ..	.. .. 636	5007 .. ..	.. 544 ..	.. .. 547	5060 .. ..	.. 615 ..	.. .. 477
Isle of Wight ..	1245 .. ..	.. 111 ..	.. .. 103	1164 .. ..	.. 100 ..	.. .. 135	800 .. ..	.. 86 ..	.. .. 134	1037 .. ..	.. 50 ..	.. .. 125
London ..	* .. ..	.. .. ..	.. .. ..	* .. ..	.. .. ..	.. .. ..	* .. ..	.. .. ..	.. .. ..	* .. ..	.. .. ..	.. .. ..
Warley ..	No Returns.			326 .. ..	.. 30 ..	.. .. 34	823 .. ..	.. 62 ..	.. .. 116	692 .. ..	.. .. 88	.. .. 135
Hounslow ..				367 .. ..	.. 49 ..	.. .. 30	547 .. ..	.. 52 ..	.. .. 9	513 .. ..	.. 45 ..	.. .. 26

STATIONS.	1860.			1861.			1862.			1863.		
	Str'gth.	Ven. Sores.	Gonorrhœa.	Str'gth.	Ven. Sores.	Gonorrhœa.	Str'gth.	Ven. Sores.	Gonorrhœa.	Str'gth.	Ven. Sores.	Gonorrhœa.
Pembroke {	1315	..	..	1262	..	..	750	..	..	819	..	..
Dock {	..	92	..	..	87	..	..	36	..	..	43	..
	..	..	125	..	..	147	..	..	73	..	..	75
Sheffield.. .. {	509	..	..	632	..	..	573	..	..	626	..	..
	..	85	..	..	61	..	..	76	..	..	47	..
	..	..	67	..	..	63	..	..	70	..	..	46
Manchester .. {	1168	..	..	1118	..	..	1051	..	..	1031	..	..
	..	135	..	..	258	..	..	185	..	..	96	..
	..	..	130	..	..	210	..	..	192	..	..	117
Preston {	944	..	..	1068	..	..	710	..	..	698	..	..
	..	126	..	..	88	..	..	38	..	..	39	..
	..	..	190	..	..	82	..	..	134	..	..	96
Edinburgh .. {	1471	..	..	1496	..	..	1409	..	..	1363	..	..
	..	173	..	..	145	..	..	98	..	..	138	..
	..	..	197	..	..	176	..	..	207	..	..	176
Fermoy {	1666	..	..	1820	..	..	1204	..	..	1355	..	..
	..	172	..	..	117	..	..	43	..	..	87	..
	..	..	173	..	..	145	..	..	83	..	..	122
Limerick .. {	1257	..	..	1246	..	..	1064	..	..	910	..	..
	..	154	..	..	150	..	..	148	..	..	146	..
	..	..	229	..	..	157	..	..	146	..	..	68
Athlone {	922	..	..	717	..	..	810	..	..	876	..	..
	..	81	..	..	100	..	..	41	..	..	38	..
	..	..	201	..	..	82	..	..	90	..	..	112
Dublin {	5423	..	..	4899	..	..	4645	..	..	4622	..	..
	..	1009	..	..	706	..	..	577	..	..	741	..
	..	..	708	..	..	566	..	..	715	..	..	647
Belfast {	812	..	..	1001	..	..	640	..	..	650	..	..
	..	108	..	..	158	..	..	58	..	..	54	..
	..	..	154	..	..	196	..	..	101	..	..	71
*London and Windsor combined {	5782	..	..	5757	..	..	4755	..	..	4987	..	..
	..	766	..	..	839	..	..	621	..	..	745	..
	..	..	297	..	..	299	..	..	367	..	..	361

STATIONS.	1871.		1872.		STATIONS.	1871.		1872.	
	Average Strength.	Admitted for Gon'rhea.	Average Strength.	Admitted for Gon'rhea.		Average Strength.	Admitted for Gon'rhea.	Average Strength.	Admitted for Gon'rhea.
Devonport and Plymouth .. {	3200	..	2748	..	Dover .. {	2759	..	2691	..
	..	614	..	421		..	238	..	203
Portsmouth .. {	5656	..	6065	..	Canterbury {	985	..	891	..
	..	794	..	724		..	243	..	129
Chatham and Sheerness .. {	4719	..	4674	..	Maidstone {	338	19	331	..
	..	659	..	414		..	..	..	51
Woolwich .. {	5814	..	6257	..	Cork .. {	2345	..	2595	..
	..	754	..	869		..	213	..	218
Aldershot .. {	15,493	..	12,741	..	Curragh {	5714	..	5067	..
	..	1706	..	1332		..	390	..	363
Windsor .. {	1046	..	1035	..	Isle of Wight .. {	1147	..	1190	..
	..	55	..	61		..	147	..	102
Shorncliffe .. {	2938	..	2738	..	London .. {	4282	..	4708	..
	..	245	..	144		..	363	..	356
Colchester .. {	2331	..	2124	..	Warley .. {	1073	..	711	..
	..	249	..	306		..	127	..	81
Winchester .. {	752	..	837	..	Bournemouth {	753	..	667	..
	..	75	..	55		..	41	..	50

STATIONS.	1871.		1872.		STATIONS.	1871.		1872.	
	Average Strength.	Admitted for Gon'rhæa	Average Strength.	Admitted for Gon'rhæa		Average Strength.	Admitted for Gon'rhæa	Average Strength.	Admitted for Gon'rhæa
Pembroke { Dock }	1057 ..	.. 98	935 ..	.. 51	Fermoy {	1230 ..	.. 46	1128 ..	.. 79
Sheffield }	730 ..	.. 153	837 ..	.. 154	Limerick {	742 ..	.. 76	802 ..	.. 63
Manchester }	1133 ..	.. 145	944 ..	.. 133	Athlone {	493 ..	.. 37	720 ..	.. 29
Preston }	916 ..	.. 130	874 ..	.. 144	Dublin .. {	4638 ..	.. 575	4914 ..	.. 737
Edinburgh }	1106 ..	.. 98	1082 ..	.. 116	Belfast .. {	657 ..	.. 101	438 ..	.. 48



$\frac{1}{4} +$ 16 - f 19 (S2)

